ALCOHOL AND OTHER DRUGS: ATTITUDES AND USE AMONG GRADUATE/PROFESSIONAL STUDENTS AT A HEALTH SCIENCE CENTER

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Alcohol and other drug use continue to be a major issue on college and university campuses. Few studies have examined alcohol and other drug related issues for a graduate or professional student population. This study examines attitudes, incidents, and consequences of alcohol and other drug use among students enrolled at an academic heath science center.

This study incorporated a descriptive research design and utilized the CORE Alcohol and Drug Survey for the collection of data. The data were then analyzed using descriptive statistics and represented in tables as frequencies and percentages.

The survey was mailed to all students enrolled in didactic course work at the University of North Texas Health Science Center (UNTHSC) during the fall 2001 semester. This included master's students in physician assistant studies, master's and doctoral students in the biomedical sciences, master's and doctoral students in public health, as well as first and second year medical students. Of the 565 students enrolled in didactic course work, 321 responded to the survey for a return rate of 56.8 %.

Statistically significant findings are reported for students at UNTHSC in relation to perceptions of use, actual use, reasons for use, and consequences for use. Similar findings are shown relative to age, gender, marital status, ethnicity, and academic program. Additionally, the UNTHSC students reported statistically significant lower

levels of alcohol and drug use, as well as consequences of use than the students represented in the CORE Institutes 2000 national data set.

This study identifies the need to investigate alcohol and drug related attitudes, behaviors, and consequences among students studying for professions in health related fields. However, the findings are only relevant to UNTHSC and cannot be generalized to any other population. The study provides personnel at UNTHSC a guide for the development of prevention and intervention programs.

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CHAPTER 1

INTRODUCTION

The use of alcohol and other drugs by students enrolled in our nation's institutions of higher education has gained a great deal of attention over the last twenty years. Nonetheless, college and university administrators have been unable to identify a means by which to minimize the use and abuse of alcohol and other drugs on campus populations. Although there has been a strong focus on drug prevention; e.g., the *War on Drugs* and *Just Say No* campaigns, the frequency of alcohol related incidents continues to rise among the college student population in the United States (Presley, Meilman, & Lyerla, 1994). A recent study showed that within a given two week period, around 85% of college students used alcohol and close to half engaged in an episode of binge drinking (Weschler, Dowdall, Maenner, Glendhill-Hoyt, & Lee, 1998). Additional research indicates that these numbers rise significantly over a three-month period (Vik, Tate, & Carrello, 2000). University presidents have indicated that substance abuse, particularly alcohol abuse, has been the most prevalent problem on their campuses (Wechsler & Isaac, 1992). Therefore, there is a need to investigate the reasons for the use and abuse of these substances among students enrolled in higher education.

Clapp (1949) states that the most expressed rationalization for drinking alcohol is to feel better. Since approximately 10 to 16 percent of college and university students suffer from some form of serious emotional distress, this should raise serious concerns for administrators (Caple, 1995). Many college students use alcohol as a means to relax

and relieve social pressures. They believe that alcohol will eliminate tension, boredom, shyness, ambivalence, and uncertainty (Keeling, 1994). However, they often overlook the fact that heavy drinking alters an individual's judgment and results in an increased risk of unwanted sexual encounters, accidents, injuries, crime, violence, and even death (Agostinelli, Brown & Miller, 1995; Keeling, 1994; O'Hare & Sherrer, 1999).

Most alcohol related problems on college campuses are typically associated with the undergraduate experience. Many researchers have attributed the use of alcohol and other drugs to experimentation and breaking free from the parental restrictions of living at home (Johnston, O'Malley, & Bachman, Vol. 1, 1998). However, a 1994 study of graduate students in the health professions reported that 65 percent of those surveyed believed that alcohol and other drug use was a problem for individuals within their program as well (Kriegler, Baldwin, & Scott, 1994).

Studies have shown that the frequency of heavy drinking among college-aged students is directly related to high rates of interpersonal problems, accidents, and crime (Clark & Hilton, 1991; Agostinelli, Brown, & Miller, 1995; Keeling, 1994). The knowledge that alcohol and drug related problems occur at the undergraduate level raises questions as to whether they are continuing in the graduate student population. According to the 2000-2001Almanac published by The Chronicle of Higher Education, over 2 million graduate and professional students are enrolled in higher education (2000). Graduate students studying for a profession in the health sciences are often challenged to recognize and minimize the burden of substance abuse on society (Kriegler et al., 1994). There have been a number of studies that examine the extent to which heath professions

students are learning to identify and treat substance abuse related problems (Murray, Fleming, & Mellibruda, 1996; Mendelson, Mello, 1983). However, few studies have looked into how to recognize the problem especially among their peers or in themselves. The concept that alcohol and drug related problems exist in this population has been largely ignored.

There are about 96 academic health science centers in the United States that offer a wide range of degrees and provide the majority of our nation's health professionals in medicine, dentistry, public health, biomedical sciences, nursing, and physician assistant studies (MSN.com, 2001). However, there have been only a few studies that address this issue within the context of the health professions, and many of these studies were conducted nearly 20 years ago (Clark, Eckenfels, Daugherty, & Rivas, 1985; Waring, Petraglia, Cohen, & Busby, 1984). There has been a general perception that individuals in the health professions are less prone to alcohol use and abuse due to the competitive academic credentials needed for acceptance into these programs, the age and marital status of those individuals entering these programs, and the health related nature of the programs of study (Kriegler et al., 1994). However, it has been shown that 10 percent of nurses and physicians are dependent on alcohol or other substances (Coleman et al., 1997; MacDonald & MacDonald, 1982) and the pattern of abuse among nursing students resembles the undergraduate numbers (Haack & Harford, 1984). Substance abuse has also been found among medical and pharmacy students, although not to the same extent as in the undergraduate population (Borkman & Rosenburg, 1986; Miller & Banahan, 1990; McAuliffe et al., 1984; Kory & Crandall, 1984).

Two studies investigated the use of alcohol and drugs within health professional populations. Both reported use levels lower than the national rates for their undergraduate counterparts (Johnston et al., Vol. 1, 1998; Coleman et al., 1997). The research base establishes that a problem exists in every level of the academic experience, from the undergraduate years through graduate and professional training. The 1998 study by the U.S. Department of Health and Human Services points out that the problem is not going to disappear. “It is more a recurring and relapsing problem which must be contained to the extent possible on a long-term, ongoing basis” (Johnston, O’Malley, & Bachman, Vol. 2, 1998, p. 24). In response, long-term research is needed to keep up with societal changes that occur from generation to generation in order to minimize the reoccurrences of alcohol and other drug abuse.

Although many drugs are prevalent in society today, alcohol is the most used and abused drug in the United States and continues to be the drug of choice for most college students (Hill, 1991). Engs (1981) also found this to be true for students pursuing careers in health related professions. The 1990 Carnegie Foundation Report indicated that the use and abuse of alcohol by members of the campus community is a significant issue that must be addressed by college administrators. Every institution of higher education has a responsibility to provide appropriate alcohol and drug prevention programs (Posavac, 1993). In order to design a prevention program, student affairs practitioners at these institutions must examine their population’s alcohol and drug related attitudes and habits (Jutcovich & Jutcovich, 1982). Understanding these components of an institution’s culture is required for the development of the appropriate counter measures.

Statement of the Problem

Alcohol and other drug use continue to be a major issue on college and university campuses. While there have been numerous studies reviewing alcohol and other drug use among the undergraduate population in the United States, few have examined these issues relative to graduate and professional student populations. Those studies that have are focused on alcohol and other drug related behaviors and not the attitudes and perceptions of these behaviors on campus. This is especially true for students studying for a profession in the health science related fields. Furthermore, a comparison of relationships between the current alcohol and other drug use and attitudes toward this use among the various health science student populations has not been conducted. Therefore, this study examines attitudes, incidents, and consequences of alcohol and other drug use among students enrolled in a variety of academic disciplines at a heath science center.

Purpose of the Study

In 1988, Ronald B. Bucknam, director of the Drug Prevention Program with the Fund for the Improvement of Postsecondary Education (FIPSE), organized a committee to develop a survey instrument. They developed an instrument that has become known as the CORE Alcohol and Drug Survey. During the last decade, millions of college students, undergraduate and graduate, have completed this survey instrument. Therefore, a standardized instrument with an aggregated national database is available for comparison purposes (Presley, Meilman & Lyerla, 1994). The purpose of this study is to utilize this instrument to gain an understanding relative to the current level of alcohol and drug use

and attitudes toward this use among students enrolled in didactic course work at the University of North Texas Health Science Center (UNTHSC). The findings of this study can then be utilized in the development of an appropriate prevention program for the students of UNTHSC.

Research Questions

The following research questions will be addressed to accomplish the purpose of this study:

1. What is the nature and extent of alcohol and drug related behaviors among students at the University of North Texas Health Science Center?
2. What are their reasons for using alcohol and drugs?
3. What are the consequences of alcohol and drug use?
4. How do these findings compare across gender, age, ethnicity, marital status, and degree program?
5. How do these findings compare with the CORE Alcohol and Drug Survey national database?

This study examines these questions through the analysis of data collected utilizing the CORE Alcohol and Drug Survey long form (FIPSE, form 194, see Appendix A).

Significance of Study

This study provides information regarding the attitudes and incidents of alcohol and other drug use among students at UNTHSC. The data will be utilized for the development of the appropriate treatment and prevention plan. Therefore, the data directly benefits the members of the UNTHSC community. Additionally, the data

provides an indirect benefit, as a comparison group, for other health science centers with similar student populations.

Definition of Terms

For the purposes of this study, the following terms are defined:

Drink or Alcoholic Beverage – five ounces of wine, twelve ounces of beer or one and a half ounces of distilled spirits (Milgram, 1990).

Use – the introduction of alcohol or another drug into a person's system for any reason (Alcohol & Drug Programs, 1991).

Abuse – the use of alcohol or other drugs when such use is illegal or when it creates health, social, or family problems (Alcohol & Drug Programs, 1991).

Binge Drinking – the consumption of five or more drinks in one sitting for males and four or more drinks in one sitting for females (Wechsler, Dowdall, Davenport & Rimm, 1995).

Sitting – the grouping of several consecutive hours during which drinking behaviors occur.

Heavy Drinking – the frequent consumption of alcohol in large quantities (Berkowitz & Perkins, 1986).

Problem Drinking – the repetitive use of beverage alcohol causing physical, psychological, or social harm to the drinker or others (Heather & Robertson, 1997).

Alcoholism – the physical addiction to alcohol (Heather & Robertson, 1997).

Drug Related Behaviors – the actions that constitute use, abuse, binge drinking, heavy drinking, problem drinking, and alcoholism.

Limitations

Since the entire population of students involved in didactic coursework on the UNTHSC campus were studied, the results are only of direct value to the institution. The findings cannot be generalized to any other population. However, they do raise questions for investigation by other health science centers. It is also important to note that within UNTHSC, there are a number of academic programs. Each academic component represents a different culture whose norms may vary from the population as a whole. It is important to note that norms are not fixed; they evolve over time. As students enter various academic programs, they begin an acculturation or adaptation into their new social reference group (Clark, Eckenfels, Daugherty, & Rives, 1985). Due to the limited number of students in some of the academic programs, a large return rate was required to achieve any statistically significant findings.

The subjects' awareness of the research study's focus and the utilization of a survey instrument may reflect a self-selection or volunteer bias. It has also been noted that individuals typically under-report when surveyed about their personal alcohol or other drug use (Lightenfeld & Kayson, 1994). Under-reporting is even more prevalent among heavy drinkers (Nystrom, Perasalo, Salaspuro, 1993). This phenomenon may be the result of an established tolerance for alcohol coupled with the lack of the subject's perception that the measured behavior is related to their use of alcohol (Kinney & Meilman, 1987). To this end, Carey points out that self-reported data may inappropriately represent relationships between variables (1995). Additionally, a subject's knowledge of

the study's purpose may increase student awareness of use and result in an increased alcohol and drug incident report rate (Burns & Sloane, 1987).

Differences in alcohol and other drug use many vary due to the time of year the surveys are administered to a particular sample or population (Smeaton, Josiam, Dietrich, 1998). This variation may be due to exam schedules for particular student populations, seasonal depression, special occasions, or campus events. Particular examples of seasonal differences may include the week directly prior to Winter Break, the week following the New Year, or the week directly following Spring Break. Alcohol use and abuse has been shown to be more wide spread and excessive surrounding these events. Therefore, some of the variation between the current study and previous studies may be the result of seasonal differences (Clark, Eckenfels, Daugherty & Rives, 1985).

CHAPTER 2

REVIEW OF THE LITURATURE

Introduction

Alcohol use and abuse are not new problems to American higher education. The issue has been discussed since the establishment of the first colonial colleges and persists today (Smith, 1989; Haines, 1996). However, during the colonial period, beer was considered safer than water and daily consumption of alcohol was viewed as an essential part of a healthy lifestyle (Heather & Robertson, 1997). It was not until the second half of the eighteenth century that traditional beliefs about the positive benefits of drinking were replaced with a realization that drinking alcohol could be harmful and result in addiction (Austin, 1985). These fears prompted the temperance movement and, later, prohibition. During the temperance movement, 1.5 million of the 13 million residents of the United States signed a pledge stating that they would never again engage in the use of alcohol as a beverage. In the 1920's, under prohibition laws, the United States experienced a dramatic decline in alcohol consumption. Consequently, during this same period, there was a reduction in hospital admissions for alcohol related accidents, fewer arrests for crimes related to public intoxication, and a decline in the number of fatalities involving alcohol (Heather & Robertson, 1997). This period marked the first time in American history that drinking was stigmatized as a negative behavior (Austin, 1985).

During the 1960's and 1970's, a variety of other drugs began to appear on American college campuses (Schuckit, Klein, Twitchell, & Springer, 1994). These recreational drugs were being used in conjunction with alcohol and as a substitute for alcohol. Although many incidents of use and abuse were documented during the period, Sanford (1967) described the abuse as a conspiracy of silence. It was not until 1993 that the Higher Education Center for Alcohol and Other Drug Prevention was established by the U.S. Department of Education for the purpose of assisting colleges and universities in the development of alcohol and other drug prevention programs (Zimmerman, 1997).

Although societal evidence of the temperance movement and prohibition still exists, the morals and laws on which they were founded continue to erode. As of 1979, between 10 and 20 million Americans reported having an alcohol related problem (Nelson, 1979). Despite this erosion, a negative stigma regarding the excessive use of alcohol continues to exist for most Americans. However, this does not seem to hold true on today's college and university campuses. Reports indicate that the percentage of drinkers in the college population is greater than that of the general American population. Additionally, college students tend to partake in a higher degree of heavy episodic drinking (Hill, 1991b). Current estimates suggest that 10% to 25% of college students are heavy drinkers (Baer, Stacy, & Larimer, 1991). According to Midanik and Clark (1994), consumption rates have had peaks and valleys throughout American history. They theorize that it takes three generations to forget the problems associated with high use rates. In an attempt to counter this problem, over 97% of higher education institutions have developed education and prevention programs. However, these programs have not

proven to be effective (Carey & Correia, 1997). Typically, these prevention and intervention programs are ineffective because they are not customized for a particular campus. Walters, Bennett, and Noto (2000, p. 224) point out that college administrators need to ask the question, "What programs will work to reduce drinking on my campus?" However, to answer this question, administrators must initiate research to understand the demographics of their student population and campus environment relative to the alcohol and other drug use that currently exists at their institution.

This chapter will discuss the current situation regarding alcohol and other drug use on college campuses and among graduate/professional student populations. Additionally, a review of the research will be conducted relative to the role of environment, peer culture, gender, ethnic/religious background, and age. The chapter will conclude with a short discussion on the consequences of alcohol and other drug use and an institution's responsibility to respond to this problem.

Alcohol and Other Drugs on the American College Campus

Many studies have focused on college student use of alcohol and other drugs. Straus and Bacon conducted the first research on this issue (1953). They examined approximately 16,000 students at 27 colleges to determine: how much, how often, where, when, and with whom college students consumed alcohol (Millar, 1999). The most important findings include the fact that the college student population has a higher percentage of alcohol use than any other group in the United States and that the use rates increased as the students progress through college (Clark & Hilton, 1991; Gonzalez & Broughton, 1986). Blane and Hewitt (1977) report the percentage of use in the general

American population at approximately 70% and use among American college students at 85%. The finding that college student use rates increase during their tenure in college is also supported by research (Janosik & Anderson, 1989). Dvorak (1972) identified a 58% use rate among freshmen and an 88% rate for seniors at a mid-western university. Miller (1997, p. 205) reports that college students drink "primarily to get drunk" and spend more on alcohol each year than they do "on soft drinks, tea, milk, juice, coffee, and books combined."

In an attempt to address the issue of college student alcohol use, Eddy (1989) suggests that institutions need to gain an understanding as to their students' knowledge of alcohol, attitudes toward alcohol, and drinking habits. Cognitive-motivational models suggest that an individual's motives for drinking and the level of consumption are directly related (Carey & Correia, 1997). Cappell and Greenley (1987) suggest that stress reduction is a strong motivation for student drinking. College students may choose to drink to obtain a desired outcome (Cox, 1987) associated with either a negative or positive variable. Ratliff and Burkhart (1984) reported that negative motives for drinking were associated with higher levels of problem drinking. Additionally, a number of studies have indicated that elevated levels of stress and anxiety are associated with increased drinking behavior (Stewart, Zvolensky, & Eifert, 2001; Stewart, Peterson, & Pihl, 1995; Cox, Swinson, Shulman, Kuch, & Reichman, 1993).

There continues to be disagreement on any measure of use that constitutes a drinking problem (Heck & Williams, 1995). However, the perception of college students and administrators is that there has been a dramatic increase in alcohol use on campuses

around the country (Engs, 1977). Gonzalez and Broughton (1986) surveyed 600 college administrators and found that they perceive the use rates on their campuses to be between 80% and 90%. These high use rates are supported by media reports that have popularized the issue (Hanson & Engs, 1992). Gonzalez (1993-94, p. 15) identifies partying as a college ritual and alcohol as the "psychoactive" drug of choice. Additionally, according to a study of Texas university students by Kerber and Wallisch (1999), 23% of college students used illicit drugs in the last year and 14% in the month prior to the survey; 29% reported using marijuana; 5% reported use of powdered cocaine; 10% have used uppers; 6% have used downers; and less than 1% reported ever using heroin. Of all the illicit drugs, marijuana is the drug of choice for most young Americans (Alcohol & Drug Programs, 1991). However, marijuana use is still well behind alcohol use among today's college students (Kerber & Wallisch, 1999).

Alcohol Use in Graduate and Professional Student Populations

Most of the research tends to indicate that 10% to 25% of college students participate in episodes of heavy drinking or can be constituted as a problem drinker (Baer, Stacy, & Larimer, 1991). However, these studies have primarily focused on undergraduate populations. Consequently, little is known regarding the attitudes of alcohol and other drug use among the graduate student population in the United States. One study on graduate students identifies alcohol use at 87% for the past year and 62% for the past month, as well as marijuana use at 25% (Globetti, Globetti, & Lo, 1992). Alcohol has been shown to be the drug of choice, followed by marijuana, for graduate and professional students. Most studies have focused on undergraduate student

populations. Those examining graduate and professional students at health science centers typically focus on medical and nursing students (Clark, Eckenfels, Daugherty, & Rivas, 1985; Clark, Daugherty, Zeldow, Eckenfels, & Silverman, 1986; Borkman & Rosenburg, 1986; Galanter, 1981; MacDonald & Mac Donald, 1982). However, for medical and nursing students, there is more research regarding the extent of alcohol and drug abuse in the clinical curriculum than the attitudes and level of use among those receiving the education.

In a study conducted on graduate students in New York, 90% reported themselves to be drinkers (Waring, Petraglia, Cohen, & Busby, 1984). Although surveys have consistently found high rates of alcohol and other drug use among young adults ages 18 to 49, Gfroerer and his colleagues have shown a relationship between higher educational attainment and lower rates of use (Gfroerer, Greenblatt, & Wright, 1997). The age of the health profession students and the rigorous academic standards for these programs are associated with lower levels of substance use and abuse (Kriegler, Baldwin, & Scott, 1994). Although the use rates drop for this population, they still represent a major problem that must be addressed by medical schools, allied health schools, and health science centers. In fact, some feel that medical students should be warned that they are at high risk (Galanter, 1980). A 1977 study of medical students indicated that 7% confessed to having personal struggles with alcohol (Chappel, Jordan, Treadway, & Millar, 1977). Research by Thomas, Luber, and Smith (1977) shows that alcohol problems affect 10% of the medical student population. These numbers are similar to the rates of alcoholism among physicians (10%) and other members of the U. S. population in similar socio-

economic situations (Bissell & Jones, 1976; McCue, 1982). However, these numbers may not be representative of all the health professions. A 1998 study indicates significant differences in personality traits among students studying for a variety of health professions (Hardigan & Cohen, 1998). These personality differences may result in differences in use rates. However, the majority of studies continue to focus on the clinical professions. Consequently, there is little known relative to attitudes and use rates among public health or biomedical science students.

The Role of Environment and Peer Culture

College drinking is typically conducted in peer groups for the purpose of socialization (O'Hare, 1997). Perkins and colleagues state that drinking is a major part of the social context that shapes the American college environment (Perkins, Meilman, Leichliter, Cashin, & Presley, 1999). Behavioral psychologists point to alcohol and other drug use as a learned behavior. Behavior is simply a response to attitudes that have been shaped within a social context (Simmonds, 1978; Johnson & Solis, 1983; Heather & Robertson, 1997). Cognitive behavioral and social learning theorists both agree that classical conditioning accounts for the strong relationship between environmental cues and behavioral responses such as heavy drinking (Dodgen & Shea, 2000). Mulford and Miller (1960) point out that alcohol use patterns develop as a direct result of the various sub-cultures to which the individual has been exposed over their lifetimes. Fishbein adds that the only method of predicting behavior is to understand the individual's attitudes in relation to cultural norms (1967). "Students' values, beliefs, and aspirations tend to change in the direction of the dominant values, beliefs, and aspirations of the peer group"

(Astin 1993, p. 398). For example, alcohol consumption positively correlates with individuals who join social fraternities (Astin, 1993).

Bandura points to peer modeling as a powerful determinant of behavior (1977). A study conducted by Jessor, Collins, and Jessor (1972) indicates that the perception of peer support was the single most important factor responsible for changes in drinking habits. According to Kohlberg's research, most young adults are in the conventional stage of moral development and therefore heavily influenced by the opinions and norms of their peer groups (1971). Perry (1968) asserts that most young adults are in a state of cognitive dualism and actively seek the confirmation of their values from their peer group. A report from the Harvard School of Public Health confirms these theories. Wechsler (1996) found that of the institutions experiencing high rates of binge drinking, almost half the students who never binged in high school reported binging as a college student. Another study found that heavy drinkers were more likely to be engaged in high levels of social activities and belong to a social group with traditionally high drinking norms (Nystrom, Perasalo, & Salaspuro, 1993b).

Proponents of the public health perspective suggest, " problems arise through reciprocal relationships among an individual, a direct cause, and an environment" (Ryan et al., 1994, p. 7). Research indicates that an individual's cultural tradition and environment are directly related to the development of their drinking behaviors (Room & Makela, 2000). Excessive drinking on campus exists as a direct result of the student and administrative culture of the institution (Lederman, 1991). Anthropologists view drinking as a social act performed in a recognized social environment (Douglas, 1987). They also

claim that if the drinking norms are consistent and well established, the rate of alcohol misuse can be minimal (Fort, 1973). Senge (1990, p. 14) writes that an organization, in this instance a campus community, is "continually expanding its capacity to create its future." In his book, The Fifth Discipline, he states that the organization must continually learn and adapt its culture to create an environment for the promotion of successful behaviors. A study conducted on university students in Singapore found that problems associated with excessive drinking were viewed as disgraceful. This cultural norm results in a very low pattern of substance use and abuse (Isralowitz & Hong, 1988). Similarly, American institutions of higher education must identify their current campus values relative to alcohol and other drug use, then adapt the culture and environment to establish norms which are supportive and consistent. In doing so, individual members of the community will learn the appropriate behaviors through the modeling of the perceived norms for alcohol and drug use. The fact is that alcohol use is not going to disappear from our culture. Institutions have a duty to their communities to create an environment that empowers each individual within the community to successfully cope with the use of alcohol (Smith, 1989). Fulton and Spooner (1987) point out that responsible use patterns among students will result only if they are represented in the campus sub-cultures and institutional norms.

The Role of Stress

The academic rigors and competitive nature of an education in one of the health science professions may cause high levels of stress. Mechanic (1962) states the assumption that persons confronted with stress are motivated to eliminate it. Some

students turn to alcohol and other drugs in an effort to cope with a high stress environment (Perkins, 1999). Hittner (1995) found that students with expectations relative to the stress reduction effects of alcohol drink more frequently. Alcohol use reduces tension and the reduction in anxiety levels reinforces the use of alcohol (Collins & Marlatt, 1983). Stress is an important environmental factor that should not be overlooked when planning prevention programs. Research conducted at the University of Wales indicates that individuals who use alcohol to cope with stress are more likely than social drinkers to develop more advanced drinking problems (Williams & Clark, 1998). A 1981 study suggests that college students who develop high levels of trait anxiety are at high risk of succumbing to alcohol abuse (Brooks, Walfish, Stenmark, & Canger). Camatta and Nagoshi (1995) found that drinking to cope with stress was the single most important identifier for heavy drinkers with alcohol use problems versus heavy drinkers with no alcohol related problems. Myers (1970) identifies stress as a major contributing factor to the etiology of alcoholism. The problem of stress leading to impairment by alcohol or other drugs needs to be continually addressed and appropriate prevention strategies developed (Lohr & Engbring, 1988).

The Role of Gender

Cultural norms indicate that heavy drinking is a more acceptable behavior for men than women (Matross & Hines, 1982; Lindbeck, 1972; Beckman, 1975). Studies have shown that men and women begin to accelerate their use of alcohol during adolescents and it reaches a peak during their early twenties (Schuckit, Anthenelli, Bucholz, Hesselbrock, & Tipp, 1995; Wilsnack, Klassen, Schur, & Wilsnack, 1991). However,

men tend to peak at higher levels than women (Humara & Sherman, 1999; Muthen & Muthen, 2000). A national survey conducted from 1975 to 1997 indicates that about 7.8% of college men drink on a daily basis as compared to only 2.1% of women (Johnston, O'Malley, & Bachman, 1998a). Research indicates that men drink more frequently and in greater quantities than women (Welcher & McFadden, 1979; Welcher, McFadden, & Rohman, 1980; Lo, 1995; Wilk & Callan, 1990). This may be partially attributed to the physiological fact that women become intoxicated after lower levels of alcohol use (Jones & Jones, 1976).

A number of studies have investigated the relationship between heavy drinking and the coping motives for drinking by gender (Beck, Thomas, Mahoney, & Fingar, 1995; Carman & Holmgren, 1986; Cooper, Russell, Skinner, & Windle, 1992; Mooney, Fromme, Kivlahan, & Marlatt, 1987; Windle & Barnes, 1988). However, no significant gender differences have been consistently reported. Carey and Correia (1997) found no differences in motives for drinking between genders, as well as no correlation between gender and the prediction of alcohol-related problems.

Institutions of higher education, and particularly graduate and professional programs, are reporting increases in enrollment among females. As these females are entering the traditionally male professional programs, they are modeling the peer cultures that have been strongly influenced by male attitudes and actions. This trend began in the 1970's and continues today. Engs' (1977) study showed the first noticeable increase in the percentage of women who drank. The trend toward heavier and more frequent use among women continues today (Gomberg, 1991). These trends must be considered

during the development of an appropriate prevention program targeted at both males and females.

The Role of Marital Status

Empirical research has found correlations between marital status and alcohol use (Fecaces, Harford, Williams, & Hanna, 1999). A report issued by the National Institute on Alcohol Abuse and Alcoholism (1990) identifies single women to be at a greater risk for the development of alcohol related problems than their married counterparts. Hilton's (1991) research implies that this is the case regardless of gender. Additionally, several longitudinal studies have found a positive correlation between changing marital status from single to married and a decline in alcohol use (Hanna, Faden, & Harford, 1993; Power & Estaugh, 1990; Temple, Fillmore, Hartka, Johnstone, Leino, & Motoyoshi,, 1991).

The Role of Ethnicity

In the United States, research has indicated that ethnicity and cultural background are related to an individual's drinking behavior (Dennison, Prevent, & Affleck, 1980). Johnson and Glassman (1999) found that Hispanics have a cultural context that includes the need for maintaining self-control, personal dignity, and respect for others. Therefore, the expectation that alcohol may lead to a loss of self-control is associated with a conscious choice to minimize frequency and quantity of alcohol consumption. Irish Americans do not share this cultural need for self-control and as a result were found to have high rates of alcohol use and problem drinking behaviors (Dennison et al., 1980). Black and Hispanic students report lower use than their White counterparts (Herd, 1990;

Nielsen, 2000; Crowley, 1991). Additionally, research has found that foreign students show significantly lower rates of alcohol use than U.S. students at the same institution (Hickenbottom, Bissonette, & O'Shea, 1987).

Age as a Factor

The majority of individuals who use alcohol began their use prior to their nineteenth birthday and show little to no acceleration in use after they turn 21 years of age (Crowley, 1991). A survey of university students in Texas (Kerber & Wallisch, 1999) indicates that students who engaged in heavy episodic drinking during their senior years in high school were significantly more likely to binge drink during college. Additionally, studies have shown that the age of first use is directly related to the frequency and quantity of consumption (Samson, Maxwell, & Doyle, 1989). The fact is that individuals who begin using alcohol at a young age will continue using alcohol to the point of intoxication more frequently than those who had their first drink later in life (Humphrey & Friedman, 1986). It is also important to note that individuals who begin drinking at early ages are more likely to become involved in other forms of substance abuse (Schall, Kemeny, & Maltzman, 1992; Dull & Williams, 1981).

On a positive note, regardless of the age at which an individual first experiences alcohol, the quantity of alcohol consumed continues to decline with age for the majority of Americans (Crowley, 1991). Additionally, studies indicate that educational attainment is related to lower use rates after the initial college experience (Gfroerer, Greenblatt, & Wright, 1997). These findings suggest that, despite the fact that most college students engage in problem drinking, most will move away from these behaviors during adulthood

(Bennett, McCrady, Johnson, & Pandina, 1999; Muthen & Muthen, 2000). However, some will continue to use and abuse alcohol throughout their adult lives. Bennett et al. (1999) point out that no clear predictor exists for the determination of who will or will not mature out of these problem-drinking behaviors. Predicting the use rate of students into adulthood is an issue that may help to target prevention programs for the future (Samson, Maxwell, & Doyle, 1989).

Consequences of Use

The higher the level of alcohol consumption in a particular community, the more likely members of that community will experience the adverse effects of alcohol use (Bewley, 1986). A recent national study indicates that 66% of all college students have had a negative experience related to another student's use of alcohol (Wechsler, Moeykens, Davenport, Castillo, & Hansen, 1995). Significant relationships exist between the use of alcohol and increases in the risk for injuries, unwanted intercourse, suicide, and accidental death (Wechsler, Davenport, Dowell, Moeykens, & Castillo, 1994; Peterson, Bowers, & Peterson, 1998). Webb (2001, p. 14A) states that alcohol is "killing and injuring our nation's future leaders, and its time to take notice." For college students under the age of 24, alcohol related accidents are the leading cause of death (Griffith & Kile, 1986). Research has indicated that binge drinking is related to an individual's personal struggles with anxiety, stress, depression, and lack of goal attainment (Kaplan, 1979). Other studies suggest that drinking during the first year of college is predictive of academic struggles during the entirety of an individual's college experience (Wood, Sher, Erickson, & DeBord, 1997). Noonberg, Goldstein, and Page's research (1985) has gone

so far as to show that high levels of regular alcohol consumption are directly related to the acceleration of the physiological aging process.

In addition to the physical effects of alcohol, the financial consequences are significant and must also be taken under consideration (Liu, 1992). Nationally, 10 to 20 million Americans have a problem with alcohol. Annually, over 15 billion dollars are lost as a result of worker absenteeism, medical expenses, social services, and property damage (Nelson, 1979). In Texas, between 41% and 47% of all prison inmates are being held for substance use related crimes and one-third of the criminal justice budget is associated with the abuse of alcohol and other drugs (Liu, 1992). It is apparent that excessive use of alcohol can destroy an individual's ability to perform well in school or on the job (Trice & Roman, 1978). Therefore, the goal of an institutional prevention program should be to discourage heavy drinking for the purpose of minimizing future social problems (Valliant, 1995).

Institutional Responsibilities

Nationwide, university administrators have reported that substance abuse is the most common problem on their campuses (Wechsler & Isaac, 1992). Alcohol related problems are natural products of the campus environment (Holder, 1998). Several studies have indicated that college students have a higher prevalence of alcohol use and heavy episodic drinking than their peer who are not enrolled in college (Jones, Oeltmann, Wilson, Brener, & Hill, 2001; Gfroerer & Greenblatt, 1997; Johnston, O'Malley, & Bachman, 2000; Dowdall & Wechsler, 2002). Therefore, colleges and universities have a duty to care (Gonzalez, 1993-94). Higher education administrators must ask if their

institution is providing an environment that promotes responsible use and consequences for abuse (Charney, 1994). Gonzalez examines the educational mission of higher education and challenges institutions to develop prevention programs that consist of carefully balanced policies, instruction, intervention, and treatment (1993-94). Every university needs to assess the level of alcohol consumption and the campus cultural norms related to alcohol. The data should then be utilized to develop an appropriate prevention program tailored to the members of that particular campus community (Wechsler, Austin, & DeJong, 1996). Prevention programs can work if they are able to change and transform the alcohol related norms that exist for the community (Holder, 1998). Students who perceive the campus norm to include heavy drinking will use it to justify excessive behavior and influence the quantity and frequency of use (Wechsler, Molnar, Davenport, & Baer, 1999). Research has shown that prevention programs that focus on the dangers of alcohol abuse are only minimally effective (Posavac, 1993). The goal of a prevention program should not consist of re-socializing individuals or sub-groups, but instead should focus on the community as a whole for the purpose of eliminating a common problem (Burnham & Nelson, 1984). Although many institutions have comprehensive and sophisticated policies on alcohol and other drugs, few maintain comprehensive prevention programs (Janosik & Anderson, 1989). A 1985 report indicated that only one-third of college campuses nationwide had assistance programs in place (Anderson & Gadaleto, 1985) and only a few institutions have gone the extra step of implementing primary and secondary prevention programs targeting the entire campus community (Sherwood, 1987). One model has taken the *cup is half full* approach to

reporting campus data regarding alcohol use. Instead of reporting the percentage of total drinkers or incidents of heavy drinking, Miller (1997) suggests reporting the percent of non-drinkers or moderate drinkers. Her research has found that 38% of students at four year colleges reported not using alcohol during the week prior to the study and that number rises to 51% who had one drink or less. In other words, the prevention program focuses on and rewards the abstainers and responsible drinkers. It is hoped that the recognition of these individuals will promote a cultural shift away from heavy drinking norms. Students in the college population are at an ideal stage in their personal development to be influenced by programs geared toward healthy drinking practices or the benefits of abstinence (Haines, 1983; Wiley et al., 1996). However, it is important to note that responsible use programs have proven more successful than no-use programs (Hanson, 1996). Werch has also found that prevention programs may be more beneficial for some individuals if they require minimal contact (1991). Another study has shown that the effects of prevention programs on the behaviors of college students only last for a period of three months (Engs, DeCoster, Larson, & McPheron, 1978). Therefore, there is a need for both primary and secondary prevention programs to be offered on a regular basis.

The American College Health Association recommends that every university should take the following steps: a) conduct a needs assessment to gain an understanding of the current campus norms relative to use; b) develop the resources needed to implement effective primary and secondary prevention efforts; c) examine the campus environment relative to alcohol use and abuse; and d) evaluate the effectiveness of the

primary and secondary intervention programs (American College Health Association, 1987). Overall, institutions of higher education must not only respond to the existing problems, but also prevent future problems through the promotion of healthy lifestyles (Anderson, 1989).

Despite all of the programming efforts developed and implemented, incidents related to problem drinking continue to be a major concern on college campuses (Williams & Knox, 1987). When the numbers of students who actually participate in campus prevention programs are compared to the percentage to students reporting heavy drinking behaviors, it is obvious that the majority of students with an alcohol related problem are not receiving an appropriate level of intervention (Walfish, Wentz, Benzing, Brennan, & Champ, 1981).

CHAPTER 3

METHODOLOGY

Introduction

Nationally, a high number of Chief Student Affairs Officers reported that educational programs to reduce the risk of alcohol related incidents on their campuses never occur or are poorly attended and ineffective (Janosik & Anderson, 1986). This study seeks to gain an understanding of current attitudes and incidents of alcohol and drug use at the University of North Texas Health Science Center (UNTHSC) and their association to a variety of variables: age, gender, marital status, ethnicity and degree program. This type of research is needed for the development of an appropriate, comprehensive, and sustained public health prevention and assistance strategy for the UNTHSC campus. Wechsler et al. (1995) has documented need for such strategies.

Research Design

Survey research is a popular method of collecting data among social scientists and educators (McMillan, 1996). This study incorporated a descriptive research design and utilized the CORE Alcohol and Drug Survey for the collection of data. The data were then analyzed using descriptive statistics and represented in tables as frequencies and percentages.

Instrument

In support of the purpose of this study, the CORE Alcohol and Drug Survey long form, FIPSE-form 194, (see Appendix A) was utilized to collect data from the UNTHSC population. The first CORE Alcohol and Drug Survey appeared in 1989 and has been slightly revised since that time. Currently, several hundred thousand students nationwide have participated in studies involving a version of this instrument.

During the construction of the instrument, a panel of experts reviewed each item to ensure content related validity (Presley, Meilman, & Leichliter, 1998). Items were selected for inclusion upon receiving an inter-rater agreement of .90. The Pearson product-moment correlation coefficient (*r*) was utilized to measure the relationship between variables. The results support the claims of stability and reliability of the CORE Alcohol and Drug Survey. Additionally, item reliability was tested using Cronbach alpha scores and item-to-total-test correlations for a selection of individual items. In almost all cases, the results from the measures met the criteria for inclusion (Presley et al., 1998). Therefore, a valid, reliable, and standardized instrument with an aggregated national database is available for comparison purposes (Presley, Meilman, & Lyerla, 1994).

As seen in Table 1, of the three national databases on collegiate alcohol and drug use, the CORE Alcohol and Drug Survey is the only one that includes graduate students (Meilman, Cashin, McKillip, & Presley, 1998).

The long form of the CORE Alcohol and Drug Survey, shown in Appendix A, was developed in 1994. It consists of 39 items which cover the following areas: demographics, approximate grade point average, campus culture, personal alcohol and

drug use behaviors, perceptions of other's alcohol and drug use behaviors, family history of use, and consequences of use to the subject and others on campus (Meilman, Presley, & Cashin, 1997).

Table 1

Populations Included in the Three National Databases on Collegiate Alcohol and Drug Use

Population	Monitoring the Future	CORE Alcohol and Drug Survey	College Alcohol Study
2-year institutions			
4-year institutions			
Full-time students			
Part-time students			
Undergraduates			
Graduate Students			

Note: A indicates that a particular population is included in the database.
Meilman, Cashin, McKillip, & Presley, 1998, p. 160.

Subjects

The study was conducted at UNTHSC in Fort Worth, Texas. All students enrolled in didactic course-work during the Fall 2001 semester were selected to participate in the study. This included all master's students in the physician assistant studies program, all master's and doctoral students in the Graduate School of Biomedical Sciences, all

master's and doctoral students in the School of Public Health, and all medical students in their first or second year of medical school. Students not enrolled for didactic courses were eliminated from the population for the purpose of this study. The students eliminated consisted of all medical and physician assistant students engaged in clinical clerkships. During the clinical phase of the medical and physician assistant students education, they are not exposed to other students, campus, or campus programs. Therefore, it was determined by the researcher that a separate study should be conducted to collect data for medical and physician assistant students engaged in the clinical portion of their education. The purpose for limiting the current study to students enrolled in didactic courses was to gain an understanding of the campus population relative to alcohol and other drug use. Jutcovich and Jutcovich (1982) indicated that successful campus programs must be able to draw from accurate data in order to delineate the key factors contributing to the consumption and abuse of alcohol for a particular population.

Procedure for Administration of the Survey

The survey was administered in the fall of 2001 and completed prior to the Thanksgiving/Fall Break. The first distribution of the survey took place during the second week of September 2001. The individual surveys were coded to indicate the academic program to which the respondent belonged. A separate code was used for each of the following four academic programs: medical students, physician assistant students, graduate students in the biomedical sciences, and graduate students in public health. One week prior to the distribution of the survey, a letter (see Appendix D) was sent to each selected participant. The letter served three purposes: an invitation to participate, an

explanation of the purpose, and an assurance of anonymity. The following week, the survey packet was sent through the

address. The survey packet contained a cover letter (see Appendix F), copy of the CORE _____ long form (see Appendix A), a self-

return envelope for the survey, a Research Study/Participant Information Sheet (see

knowing who responded to the first mailing, the cover letter for the second (see Appendix G) and third (see Appendix H) mailings included instructions to destroy the survey if the subject had already completed and returned a prior copy of the instrument. This measure was taken to eliminate the potential of one subject completing multiple surveys. One week after the initial distribution of the survey, a reminder postcard (see Appendix I) was sent to all subjects. The following week, a second survey packet was sent to all subjects. During the next two-week period, another postcard and the third survey packet were sent to all subjects.

Procedure for Analysis of Data

Upon completion of the administration of the CORE Alcohol and Drug Survey, the questionnaires were mailed to Southern Illinois University at Carbondale, home of the CORE Institute, for machine scoring by optical scanner. A computer disk containing the raw data in an SPSS format was returned with a report relative to the variables in question. Descriptive statistics (chi-squares, means, and percentages) were utilized to determine the relationships between the variables of gender, age, marital status, ethnicity, and academic program. Additionally, descriptive statistics were used to compare the

findings for UNTHSC with the CORE Institute's 2000 national data set. The national

atabase on alcohol and drugs in postsecondary

education and the only one that includes data for graduate and professional students

Testing of Research Questions

The data collected with the _____ was analyzed in

Research Question 1: What is the nature and extent of alcohol and drug related

answer question one, means and p

survey items 12, 14 20, 26, 28 30, 32 34, and 37.

answer question two, percentile scores were generated for items 10 and 27.

answer question three, a chi square was conducted to determine the relationship between

sco

Research Question 4: How do these findings compare across gender, age,

data were analyzed by gender, age, ethnicity, marit

Percentages and chi square statistics were reported as appropriate for survey items 10, 14,

Research Question 5: How do these findings compare with the CORE Alcohol and Drug Survey national database? To answer question five, a chi square, test of goodness of fit, was conducted utilizing the findings for the UNTHSC population in relation to the expected findings as represented in the CORE Alcohol and Drug Survey national data set for the year 2000.

CHAPTER 4

ANALYSIS AND INTERPRETATION OF THE DATA

The purpose of this study was to gain an understanding relative to the current level of alcohol and drug use, attitudes toward use, and consequences of use among students enrolled in didactic course work at the University of North Texas Health Science Center (UNTHSC). The findings were examined with respect to the following variables: gender, age, ethnicity, marital status, and degree program. The data collected are evaluated and discussed in this chapter on two levels: a demographic description of the respondents in relation to the total population and an analysis of the data relative to the research questions.

Demographics of the Respondents and Population

The CORE Alcohol and Drug Survey (see Appendix A) was mailed to all students enrolled in didactic course work at UNTHSC during the fall 2001 semester. The population data utilized for the purpose of this study were provided by the school's Registrar's Office as reflected on the official twelfth class day rosters for each of the four academic programs. These programs included medical, physician assistant, biomedical science, and public health students. During the fall of 2001, there were a total of 565 students enrolled in didactic course work at UNTHSC. Table 2 shows the response rates by academic program and Table 3 extrapolates the data relative to the population and

response groups based on the five variables: academic program, gender, age, ethnicity, and marital status.

Table 2

Response Rate to CORE Survey by Academic Program at the UNT Health Science Center

Academic Program	Population (N)	Response Group (n)	Response Rate
Physician Assistants	47	32	68.1%
Biomedical Sciences	132	65	49.2%
Public Health	144	100	69.4%
Medical Students	242	124	51.2%
Total Population	565	321	56.8%

Table 3

Demographic Breakdown of Gender, Age, Ethnicity, and Marital Status by Academic Program for the UNT Health Science Center Population Versus the Response Group

Degree Program		Physician Assistants		Biomedical Sciences		Public Health		Medical Students		Total	
		%N	%n	%N	%n	%N	%n	%N	%n	%N	%n
Gender	Male	29.8	21.9	41.2	31.1	43.9	33.7	49.2	41.4	44.3	34.8
	Female	70.2	78.1	58.8	68.9	56.1	66.3	50.8	58.6	55.7	65.2
Age	20-24	25.5	31.2	27.9	31.7	15.3	15.8	49.6	54.8	33.3	36.0
	25-29	40.4	37.5	45.6	39.7	32.5	28.4	38.0	32.3	38.5	33.1
	30-34	23.4	21.9	18.4	22.2	17.2	18.9	8.7	8.1	14.4	15.6
	35-39	6.4	6.3	3.7	3.2	8.9	11.6	2.1	3.2	4.6	6.1
	40+	4.3	3.1	4.4	3.2	26.1	25.3	1.6	1.6	9.1	9.2
Ethnicity	White	76.5	78.1	50.0	46.8	48.4	50.5	66.1	64.2	58.4	57.9
	Black	2.1	3.1	9.6	4.8	14.6	15.2	2.1	0.8	7.2	6.3
	Asian	4.3	9.4	5.1	32.3	8.3	17.2	24.4	22.8	13.9	21.5
	Hispanic	12.8	6.3	11.8	9.7	9.6	14.1	7.0	6.5	9.3	9.5
	Other	4.3	3.1	23.5	6.4	19.1	3.0	0.4	5.7	11.2	4.8
Marital Status	Single	N/A	46.9	N/A	52.3	N/A	48.5	N/A	65.1	N/A	55.5
	Married	N/A	46.9	N/A	40.0	N/A	48.5	N/A	33.3	N/A	40.8
	Separated	N/A	0.0	N/A	4.6	N/A	0.0	N/A	0.8	N/A	1.2
	Divorced	N/A	6.2	N/A	3.1	N/A	3.0	N/A	0.8	N/A	2.5

As shown in Table 2, 321 of the 565 students in the population responded to the survey for a return rate of 56.8 %. The response rates varied for the four academic programs being studied. The public health students had the highest response rate of 69.4%. The physician assistant program had the next largest response rate at 68.1%, followed by the medical school at 51.2% and the biomedical science students at 49.2%.

The population of students enrolled in didactic course work at UNTHSC was 44.3% male and 55.7% female; 71.8% of the population were between 20 and 29 years of age; and the ethnic make up was 57.9% White, 6.3% Black, 9.5% Hispanic, and 25.1% Asian/Other. Although the respondents varied by gender, 34.8% male and 65.2% female, the percentage of students between the ages of 20 and 29 (69.1%) and the ethnicities of the respondents (58.4% White, 7.2% Black, 9.3% Hispanic, and 26.3% Asian/Other) showed only minor variations. The largest variations to note were under ethnicity in two of the academic programs: public health and biomedical sciences. In these two groups, there appears to be a smaller number of Asians in the population than in the response group and a larger number of Other in the population than in the response group. This is attributed to the self-reporting of ethnicity on the survey and the definitions of these categories established by the UNTHSC Registrar's Office. The School of Public Health and Graduate School of Biomedical Sciences are the only two academic programs at UNTHSC that admit international students. The majority of these students are of Asian decent. Therefore, on the surveys, they may have reported themselves as Asian. However, since they are international students, UNTHSC places them in a category of Other. UNTHSC only reports ethnicity for US citizens and permanent residents of the

United States. Therefore, for the purpose of discussion and evaluation, the categories of Asian and Other will be represented together.

Additionally, UNTHSC does not keep any records of its

status. Therefore, there is no population data available for this variable. However, a review of the respondents shows a fairly even distribution of married and single students

oup slightly higher single

population (65.1% single).

Overall, the high response rates among academic programs in conjunction with the demographic similarities between the respondents and the total population minimize

e Table 3).

Students at UNTHSC do not appear to be familiar with the institution's alcohol

are available on campus (see Table 4). Only 67.6% of the respondents were aware that

of any such policies and only 31% felt that the policies were enforced. Even more striking, 84.3% of the

not believe that any existed. These findings suggest that alcohol and drug related issues are not a priority on the campus.

Table 4

Student Perceptions of the UNT Health Science Center's Situation on Alcohol and Drugs

	% Yes	% No	% Do Not Know
Aware of Campus Alcohol and Drug Policies	67.6%	1.3%	31.1%
Alcohol and Drug Policies are Enforced	31.0%	2.3%	66.7%
Aware of a Campus Drug or Alcohol Prevention Program	15.7%	3.2%	81.1%

The Perception of Alcohol and Drug Related Behaviors

The majority (89.5%) of students at UNTHSC have expressed some level of concern relative to peer use of alcohol and other drugs (see Table 5). However, 66% felt that the level alcohol use on the health science center campus was lower than that of

Table 5

Perception of Student Concern Relative to Alcohol and Other Drug Use at the UNT Health Science Center

	Frequency	Percentage
Not at All Concerned	32	10.5%
Slightly Concerned	85	27.9%
Somewhat Concerned	121	39.7%
Very Much Concerned	67	22.0%

other campuses, while only 4.2% perceived the level of use to be higher (see Table 6). There is a statistically significant higher perception of alcohol use ($p>.05$ with $df=1$) than the level of reported use. Students of UNTHSC perceived that only 2.3% of the

population had never used alcohol and 40.5% had never used marijuana (see Table 7 and Table 8). However, 14% of students reported that they had never used alcohol and 72.8% had never used marijuana (see Table 9 and Table 10).

Table 6

Student Perceptions of the UNT Health Science Center Campus Compared to Other Campuses

	Frequency	Percentage
Use of Alcohol is Higher	13	4.2%
Use of Alcohol is Lower	204	66.0%
Use of Alcohol is About the Same	92	29.8%

Table 7

Perception of Alcohol Use by Other Students on the UNT Health Science Center Campus

	Frequency	Percentage
Never	7	2.3%
Once per Year	1	0.3%
6 Times per Year	6	2.0%
Once per Month	12	3.9%
Twice per Month	20	6.5%
Once per Week	143	46.6%
3 Times per Week	86	28.0%
5 Times per Week	25	8.1%
Everyday	7	2.3%

Table 8

Perception of Marijuana Use by Other Students on the UNT Health Science Center Campus

	Frequency	Percentage
Never	123	40.5%
Once per Year	73	24.0%
6 Times per Year	37	12.2%
Once per Month	34	11.2%
Twice per Month	17	5.6%
Once per Week	13	4.3%
3 Times per Week	5	1.6%
5 Times per Week	0	0.0%
Everyday	2	0.7%

Table 9

Age of First Alcohol Use by Students at the UNT Health Science Center

	Frequency	Percentage
Never	45	14.0%
Under 10	10	3.1%
10-11	4	1.2%
12-13	19	5.9%
14-15	46	14.3%
16-17	68	21.2%
18-20	76	23.7%
21-25	51	15.9%
26 or Older	2	0.6%

Table 10

Age of First Marijuana Use by Students at the UNT Health Science Center

	Frequency	Percentage
Never	233	72.8%
Under 10	1	0.3%
10-11	1	0.3%
12-13	7	2.2%
14-15	8	2.5%
16-17	18	5.6%
18-20	32	10.0%
21-25	18	5.6%
26 or Older	2	0.6%

Item 28 of the CORE Alcohol and Drug Survey investigates the respondent's feelings regarding alcohol as a central part of the campus experience. However, despite the overestimated perception of peer alcohol use, students reported that alcohol was not a central part of the social lives of most groups in the campus community (see Table 11). The only exception was for the social life of male students, reported at 54.3%. Additionally, only 29% of respondents reported that the social environment on campus promotes the use of alcohol and a meager 2.6% reported the environment to promote the

Table 11

Perception of Drinking as a Central Part of Social Life for Campus Groups at the UNT Health Science Center

	Frequency Yes	Percentage Yes
Male Students	164	54.3%
Female Students	122	40.7%
Faculty/Staff	56	19.2%
Alumni	67	23.2%

use of other drugs (see Table 12). In fact, students believed that 62.3% of their peers would disapprove of them trying marijuana even one time (see Table 13).

Table 12

Perception of the UNT Health Science Center's Campus Environment

	Frequency Yes	Percentage Yes
The Social Atmosphere on this Campus Promotes Alcohol Use	91	29.0%
The Social Atmosphere on this Campus Promotes Other Drug Use	8	2.6%

Table 13

Perceptions of Peer Attitudes Toward Respondent Marijuana Use at Various Frequencies of Use for Students at the UNT Health Science Center

	Don't Disapprove		Disapprove		Strongly Disapprove	
	Freq.	%	Freq.	%	Freq.	%
Trying Marijuana Once or Twice	117	37.7%	71	22.9%	122	39.4%
Smoking Marijuana Occasionally	66	21.3%	87	28.1%	157	50.6%
Smoking Marijuana Regularly	13	4.2%	83	26.7%	215	69.1%

The concept that peer pressure plays a role in the drinking patterns of students at UNTHSC can be further questioned since 28.3% of the drinkers reported decreased levels of alcohol use in the last 12 months as opposed to only 8.9% reporting an increase in their personal drinking habits (see Table 14). Additionally, 44.8% of students involved in drug use reported a decline and only 17.2% indicated their use increased over the last 12

months (see Table 15). However, in all cases, the clear majority of students either did not change or indicated a decline in their level of alcohol and other drug use during the year prior to the survey. These findings indicate that the campus culture may actually promote lower levels of use and more responsible use of alcohol and other drugs.

Table 14

The Extent to which Respondents Alcohol Use Changed within the Last 12 Months

	Frequency	Percentage
Increased	22	8.9%
About the Same	155	62.7%
Decreased	70	28.3%

Table 15

The Extent to which Respondents Illegal Drug Use Changed within the Last 12 Months

	Frequency	Percentage
Increased	5	17.2%
About the Same	11	37.9%
Decreased	13	44.8%

The Extent of Alcohol and Drug Related Behaviors

UNTHSC students reported drinking on average 2 alcoholic beverages per week (see Table 16). However 42.5% reported that they do not drink on a weekly basis. This means that the mean number of drinks per drinker actually rises to 3.48 with a standard deviation of 3.82. The majority of students (86.7%) reported drinking less than five

Table 16

Average Number of Alcoholic Drinks per Week by Student at the UNT Health Science Center

Number of Drinks	Frequency	Percentage
00	136	42.5
01	70	21.9
01	30	9.4
03	21	6.6
04	20	6.3
05	13	4.1
06	7	2.2
07	3	0.9
08	4	1.3
09	2	0.6
10	5	1.6
12	6	1.9
13	1	0.3
25	1	0.3
30	1	0.3
Total Respondents	Mean = 2.0031	SD = 3.3663
Total Drinkers	Mean = 3.4837	SD = 3.8168

Table 17

The Use of Alcohol in the Last Year by Students at the UNT Health Science Center

	Frequency	Percentage
Never	57	17.9%
Once per Year	23.	7.2%
6 Times per Year	46	14.5%
Once per Month	31	9.7%
Twice per Month	51	16.0%
Once per Week	64	20.1%
3 Times per Week	34	10.7%
5 Times per Week	11	3.5%
Everyday	1	0.3%

drinks per week. Additionally, only 34.6% stated that they used alcohol once a week or more during the past year (see Table 17). However, 15% of the respondents indicated that in the two weeks prior to the survey they were involved in an episode of binge drinking, with 6.5% doing so on more than one occasion (see Table 18).

Table 18

Five or More Drinks in One Sitting Over Past Two Weeks by Students at the UNT Health Science Center

	Frequency	Percentage
None	273	85.0%
Once	27	8.4%
Twice	10	3.1%
3 to 5 Times	10	3.1%
6 to 9 Times	1	0.3%

Additionally, 69.5% of the students enrolled at UNTHSC began using alcohol prior to the age of 21, the current legal age in the state of Texas (see Table 19). A chi-square was computed to determine the relationship between individuals who began drinking prior to turning 21 and those who reported incidents of binge drinking during the two weeks prior to the survey. This test showed a statistically significant relationship between these two factors ($p>.05$ with $df=1$). Thus, it can be stated that students who began drinking prior to the age of 21 are more likely to binge drink than other students on the UNTHSC campus. A second chi-square test indicated a statistically significant relationship ($p>.05$ with $df=1$) between those students who began drinking prior to their 21st birthday and those who smoked marijuana during the year prior to the survey. Similarly, a statistically significant relationship ($p>.05$ with $df=1$) was found between the

use of marijuana in the past year and the participation in an episode of binge drinking during the two weeks prior to the survey. This leads to the conclusion that students who begin drinking prior to the age of 21are more likely to use illegal drugs and on occasion drink heavily.

Table 19

Age of First Alcohol Use by Students at the UNT Health Science Center

	Frequency	Percentage
Never	45	14.0%
Under 10	10	3.1%
10-11	4	1.2%
12-13	19	5.9%
14-15	46	14.3%
16-17	68	21.2%
18-20	76	23.7%
21-25	51	15.9%
26 or Older	2	0.6%

Table 20

Use of Marijuana in the Last Year by Students at the UNT Health Science Center

	Frequency	Percentage
Never	290	91.2%
Once per Year	10	3.1%
6 Times per Year	11	3.5%
Once per Month	2	0.6%
Twice per Month	2	0.6%
Once per Week	2	0.6%
3 Times per Week	1	0.3%
5 Times per Week	0	0.0%
Everyday	0	0.0%

Item 37 of the CORE Alcohol and Drug Survey investigates the extent to which a respondent engaged in alcohol and other drug related behaviors during the 30 days prior to completing the survey. Table 21 reviews the findings relative to this question. In support of the earlier findings, there seems to be an absence of peer pressure, 81.6% of UNTHSC students reported that they had not experience peer pressure during the 30 days prior to the survey. Additionally, 55.2% reported that they refused an offer of alcohol or other drug and only 7.9% reported holding a drink so people would not bother them about why they were not drinking. Only 3.5% reported bragging about their alcohol or drug use, while 43.8% reported witnessing the bragging of others. Therefore, it appears that the majority of the population's perceptions are a result of a few individuals use. A further investigation of this factor was conducted and a statistically significant relationship ($p>.05$ with $df=1$) was shown to exist between individuals who bragged of alcohol or drug use and those who were criticized by a colleague. This again points to an environment that is not conducive to peer pressure to drink or use drugs.

In an attempt to better understand the extent of alcohol and drug related behaviors it was important to investigate the location of students use. Table 22 and Table 23 describe the location of alcohol and marijuana use of students at UNTHSC. The majority of alcohol use was reported at bars and restaurants (71.7%), the individuals' personal residences (64.8%), and at private parties (63.9%). Marijuana use was mostly associated with private parties (13.7%) and a personal residence (8.7%). For further investigation of these findings, some cross-tabulations and chi-square tests were conducted to determine the relationship between the location of use and level of use. Individuals reporting

Table 21

Extent to which Respondents Engaged in Alcohol and Other Drug Related Behaviors in the last 30 days

	Never		Once		Twice		3-5		6-9		>10	
	n	%	n	%	n	%	n	%	n	%	n	%
A	141	44.8	53	16.8	66	21.0	35	11.1	11	3.5	9	2.9
B	304	96.5	8	2.5	2	0.6	1	0.3	0	0.0	0	0.0
C	177	56.2	48	15.2	44	14.0	35	11.1	6	1.9	5	1.6
D	257	81.6	26	8.3	17	5.4	12	3.8	2	0.6	1	0.3
E	290	92.1	12	3.8	4	1.3	6	1.9	1	0.3	2	0.6

Note:
A: Refused an offer of alcohol or other drug
B: Bragged about alcohol or other drug use
C: Heard someone else brag about their use
D: Experienced peer pressure to drink or use drugs
E: Held a drink to have people stop bothering you about why you weren't drinking

alcohol use at private parties or in their personal residence were statistically more likely, at a significant level ($p>.05$ with $df=1$), to drink more than five drinks a week than their counterparts who did not report drinking in these locations. Additionally, those individuals who reported using marijuana at home or parties also showed a statistically significant relationship ($p>.05$ with $df=1$) to episodes of binge drinking over the two weeks prior to the survey. These findings indicate that individuals who drank or used drugs at home or private parties tend to be involved in higher levels of alcohol consumption both during a given week and at a single sitting.

The extent of actual reported alcohol and drug use does not come close to the level of perceived use. If fact, there was a statistically significant difference ($p>.05$ with $df=1$) between the perception of alcohol use and reported level of use during the year prior to the survey.

Table 22

Location of Self Reported Alcohol Use by Students at the UNT Health Science Center

	Frequency	Percentage
Never Used	48	15.0%
On-Campus Events	55	17.1%
Campus Housing	41	12.8%
Social Organizations	47	14.6%
Bar or Restaurant	230	71.7%
Place of Residence	208	64.8%
In a Car	51	15.9%
Private Parties	205	63.9%
Other	49	15.3%

Table 23

Location of Self Reported Marijuana Use by Students at the UNT Health Science Center

	Frequency	Percentage
Never Used	244	76.0%
On-Campus Events	2	0.6%
Campus Housing	5	1.6%
Social Organizations	3	0.9%
Bar or Restaurant	5	1.6%
Place of Residence	28	8.7%
In a Car	10	3.1%
Private Parties	44	13.7%
Other	12	3.7%

Reasons for Using Alcohol and Other Drugs

The findings of this study appear to indicate that the level of use by students at UNTHSC is lower than expected, so it was no surprise to discover that only 64.3% of students felt that alcohol should be made available at parties and other social gatherings (see Table 24). This compares to only 3.7% who felt that other drugs should be available.

Table 24

Respondents View Towards the Availability of Alcohol or Other Drugs at Parties

	Frequency	Percentage
Have Alcohol Available	193	64.3%
Have Drugs Available	11	3.7%

Although these numbers are lower than the national rates, the use of alcohol and other drugs continues to be a part of the sub-culture for some students. Therefore, in an attempt to better understand why students drink, they were asked about their perception as to the effects of alcohol use (see Table 25).

The most often cited reason for using alcohol was as an ice-breaker (61.8%). Six of the top seven reasons for alcohol use revolved around socialization and peer relationships. All of the items relating to social and peer issues showed a statistically significant ($p>.05$ with $df=1$) association with a respondent's participation in an episode of binge drinking, the level of alcohol consumed in a given week, and the age of first use occurring prior to the age of 21. Nearly one-third of the students (32.8%) reported that their use of alcohol allows them to deal with stress. Although a statistically significant relationship ($p>.05$ with $df=1$) was found between stress as a reason for drinking and the level of drinking in a given week or a single sitting, no association could be made relative to the age of first use. However, there was a statistically significant relationship between drinking as a means to avoid stress and drinking in one's private residence ($p>.05$ with $df=1$). This may indicate that the individuals who begin drinking earlier in life do so as a means of social stimulation and they continue to drink in these social situations. Also,

those individuals who drink as a coping mechanism for stress may do so at a higher level and more often than those who do not drink for this reason. Drinking to avoid stress is more likely to occur in private than in a social setting.

Table 25

Reasons Given for Drinking Alcohol at the UNT Health Science Center

	Frequency Yes	Percentage Yes
Breaks the Ice	196	61.8%
Enhances Social Activity	193	60.9%
Makes it easier to Deal with Stress	104	32.8%
Facilitates a connection with peers	147	46.2%
Gives People Something to Talk About	137	43.1%
Facilitates Male Bonding	151	47.5%
Facilitates Female Bonding	83	26.3%
Allows People to Have More Fun	145	45.6%
Gives People Something to Do	165	52.1%
Make Food Taste Better	59	18.6%
Makes Women Sexier	46	14.6%
Makes Men Sexier	23	7.3%
Makes Me Sexier	24	7.5%
Facilitates Sexual Opportunities	131	41.5%

Consequences of Alcohol and Drug Use

The UNTHSC students' responses to the CORE Alcohol and Drug Survey indicate that 41.5% had experienced an hangover, 29.0% became nauseated or vomited, 22.3% had driven while under the influence, 17.1% did something they regretted, 11.3% had an argument or fight, 9.5 % experienced memory loss, 7.3% missed a class, 4.7% had

performed poorly on a test, and 3.5% had been taken advantage of sexually as a result of alcohol use (see Table 26). Additional consequences of alcohol and drug use are the result of another individual's use. Therefore, non-users can suffer some of the effects of alcohol use as well.

As indicated in Table 27, 39% of students feel that the drinking behavior of other students interferes with their life on or around campus. Just about one in every six students felt that the use of alcohol at events detracts from their enjoyment of the activity.

Table 26

Self-Reported Consequences of Alcohol Use by Students at the UNT Health Science Center

	Never	Once	Twice	3-5 Times	6-9 Times	10+Times
A	58.5%	12.9%	10.4%	10.4%	4.4%	3.5%
B	95.3%	1.6%	1.3%	1.6%	0.3%	0.0%
C	88.3%	5.4%	4.4%	1.0%	0.6%	0.3%
D	71.0%	16.1%	6.0%	5.0%	0.9%	0.9%
E	77.7%	6.3%	6.0%	7.2%	1.9%	0.9%
F	92.7%	1.9%	2.5%	2.2%	0.3%	0.3%
G	90.5%	5.0%	2.5%	1.3%	0.3%	0.3%
H	82.9%	8.9%	3.8%	2.8%	0.9%	0.6%
I	96.5%	3.2%	0.3%	0.0%	0.0%	0.0%

Note:
A: Hangover
B: Performed Poorly on a Test
C: Argument or Fight
D: Nauseated or Vomited
E: Driven While Under the Influence
F: Missed Class
G: Memory Loss
H: Did Something and Regretted it Later
I: Been Taken Advantage of Sexually

Similarly, 14.1% reported others use of alcohol made them feel unsafe, 8.0% stated that it adversely affected their involvement in organized activities, and 7.3% indicated that it directly interfered with their ability to study. Thus, the secondary effects must be addressed along with the primary consequences of alcohol use.

Table 27

Perception of the UNT Health Science Center Students on the Ways Other Students' Drinking Interferes with life on or Around Campus

	Frequency	Percentage
Interrupts Your Studying	23	7.3%
Makes You Feel Unsafe	44	14.1%
Adversely affects your Involvement in Organized Group Activities	25	8.0%
Prevents you from Enjoying Events	51	16.4%
Does Not Interfere with My Life	189	61.0%

It was expected that students who did not feel valued as a member of the campus community would be more likely to drink at higher levels and participate in episodes of excessive alcohol consumption. Table 28 indicates that 81.2% of the students at UNTHSC feel valued as a member of the community, while 18.8% are either neutral or do not feel valued. A cross-tabulation was conducted and a chi square test utilized to determine the relationship between feeling valued and use of alcohol and the null hypothesis proved to be true. No statistically significant relationship was found relative to the individual's feeling of value.

Table 28

Respondents Perception of their Feeling Valued as a Member of the UNT Health Science Center Campus Community

I feel valued:	Frequency	Percentage
Strongly Agreed	111	35.2%
Agree	145	46.0%
Neutral	44	14.0%
Disagree	5	1.6%
Strongly Disagree	5	1.6%
Don't Know	5	1.6%

Additionally, a statistically significant relationship was expected between the level of alcohol use and an individuals' self reported Grade Point Average (GPA). Again, a cross-tabulation was conducted and a chi-square test utilized to determine the relationship between GPA and use of alcohol. For this instance, the null hypothesis could not be rejected. Therefore, no statistically significant relationship was found.

Gender as a Factor

The student population of UNTHSC is 44.3% male and 55.7% female. The respondents to the CORE Alcohol and Drug Survey varied from the population being examined a little by gender, 34.8% male and 65.2% female. Although it is important to note these differences, the data collected were expected to represent the total population for each group of respondents.

Table 29 shows only minor differences between the opinion of males (67.7%) and females (61.2%) regarding the availability of alcohol at parties and social gatherings.

Although the difference relative to the availability of drugs at social events is greater, the null hypothesis cannot be disproved.

Table 29

Respondents View Towards the Availability of Alcohol or Other Drugs at Parties by Gender

	% have alcohol available	% have other drugs available
Male	67.7%	6.3%
Female	61.2%	2.2%

In a comparison of alcohol use, the responses of males and females at UNTHSC are fairly similar. In the last year, 81.0% of males and 82.4% of females used alcohol; 10.9% of males and 7.8% of females used marijuana; and 5.9% of males and 3.6% of females used other drugs (see Table 30). In each of these cases, the null hypothesis could not be rejected. Thus no statistically significant differences can be reported between genders.

Table 30

Comparison by Gender Relative to the Most Frequently Reported Alcohol and Other Drugs Used in the Last Year by Students at the UNT Health Science Center

	Male	Female
Alcohol	81.0%	82.4%
Marijuana	10.9%	7.8%
Other	5.9%	3.6%

However, when the use rates of males and females are compared for the 30 days prior to completing the survey, males (6.9%) appear at a statistically significant level ($p>.05$ with $df=1$) to be more likely to use marijuana than their female (1.6%)

counterparts (see Table 31). A further comparison of the 30-day use rates reveals no statistically significant difference in the use of alcohol (male 69.6% and female 66.3%) or the use of drugs other than marijuana (males 3.9% and females 1.6%). Due to overwhelming similarities between the males and females in every aspect of this study, the statistically significant difference in marijuana use during the 30-day period was considered to be an anomaly related to the short time period being evaluated.

Table 31

Comparison by Gender Relative to the Most Frequently Reported Alcohol and Other Drugs Used in the Last 30 Days by Students at the UNT Health Science Center

	Male	Female
Alcohol	69.6%	66.3%
Marijuana	6.9%	1.6%
Other	3.9%	1.6%

In review of the data, it can be stated that more women (46.9%) report not drinking than men (37.9%) and that the number of drinks consumed for men (mean = 2.72) is greater than that for women (mean = 1.48). Additionally the mean drinks per drinker show only minor variation, 4.38 per week for men and 2.79 per week for women (see Table 32). Again, there is not enough differentiation to reject the null hypothesis.

Similar findings occur for the percentage of male (19.4%) and female (12.4%) who had engaged in an episode of binge drinking during the two-week period prior to the survey (see Table 33).

Table 32

Average Number of Drinks Consumed by Students at the UNT Health Science Center per week by Gender

	Percentage of no drinks per week	Mean number of Drinks per person	Mean number of drinks per drinker
Male	37.9%	2.72	4.38
Female	46.9%	1.48	2.79

Table 33

Comparison by Gender of Respondents' Incidents of Binge Drinking During the Two-Week Period Prior to Survey

	Male	Female
Percentage of Students Who Engaged in at Least One Episode of Binge Drinking in the Two Weeks Prior to the Survey	19.4%	12.4%

Table 34 shows that men were more likely to experience incidents of ethnic or racial harassment, but there was no statistically significant difference associated with this variable. Similarly, upon review of the various consequences on alcohol use measured in the survey, there were no statistically significant findings between genders for any of the variables. Although, it is interesting to note that females reported suffering the physical consequences of alcohol use at higher levels than men. For example, 43.8% of females reported suffering from a hangover compared to only 37.6% of men; and 30.4% of women became nauseated or vomited as opposed to 21.8% of men (see Table 35).

One interesting statistic represented in Table 34 is the similarity between genders on the issue of driving while under the influence. Men reported at 22.8% and women at 22.9%. This figure shows that regardless of gender, more than one in five students at

UNTHSC has driven an automobile while under the influence of alcohol. This alone is a serious issue that warrants further attention.

Table 34

Consequences of Alcohol Use by Gender for Students at the UNT Health Science Center

	Male	Female
Ethnic or Racial Harassment	10.9%	5.2%
Threats of Physical Violence	2.0%	1.0%
Actual Physical Violence	0.0%	1.6%
Theft involving Force or Threat of Force	0.0%	0.5%
Forced Sexual Touching	0.0%	1.6%
Unwanted Sexual Intercourse	0.0%	1.0%

Table 35

Comparison by Gender of Self-Reported Consequences of Alcohol Use for Students at the UNT Health Science Center

	Male	Female
Hangover	37.6%	43.8%
Performed Poorly on a Test	5.0%	3.6%
Argument or Fight	8.0%	11.6%
Nauseated or Vomited	21.8%	30.4%
Driven While Under the Influence	22.8%	22.9%
Missed Class	7.9%	6.3%
Criticized by an Acquaintance	10.9%	6.8%
Thought, “I may have a Drinking Problem”	7.0%	2.1%
Memory Loss	5.9%	11.0%
Did Something and Regretted it Later	14.9%	16.3%

Age as a Factor

For the purpose of evaluation, students were divided into five age categories, 20-24, 25-29, 30-34, 35-39, and over 40. There were no statistically significant differences found between the student population of UNTHSC and the respondents to the survey relative to age. Therefore, it is expected that the data collected were representative of the population.

There was very little difference reported relative to the preferences toward the availability of alcohol and drugs at parties or social events. The preference to have alcohol available was highest (72.0%) for students between the ages of 25 and 29 and the lowest (52.9%) for those between the ages of 35 and 39 (see Table 36). Upon initial review of the percentages of those who reported a preference for drugs at parties, the range is from a high of 9.1% for students between the ages of 30 and 34 to a low of 0.0% for students between 35 and 39. However, due to the small number of students reporting a preference for drugs, 11 from the entire sample of 321, no statistical significance could be determined between age groups relative to this factor.

Table 36

Respondents View Towards the Availability of Alcohol or Other Drugs at Parties by Age

	% have alcohol available	% have other drugs available
20-24	60.1%	0.9%
25-29	72.0%	4.0%
30-34	56.8%	9.1%
35-39	52.9%	0.0%
40+	69.6%	8.3%

Table 37 shows a comparison of data relative to drinking patterns of the five age groups. Interestingly, there is no pattern relative to the percentage of students within each group who do not drink on a weekly basis. These figures range from 53.1% for students between 30 and 34 to 31.7% for individuals between 25 and 29. The mean number of drinks reported for each group also showed little variation. However, when the non-drinkers were extrapolated from the data and the mean number of drinks per drinker was calculated, there was an interesting, yet not surprising result. The mean number of drinks per drinker rises from age group to age group. These findings suggest two possibilities. First, individuals who drink more per week at the age of 20-24 are the ones who continue to drink throughout their lifetime. Secondly, if an individual continues to drink throughout their lifetime, they will drink more per week than their younger counterparts.

Table 37

Average Number of Drinks Consumed by Respondent per week by Age

	Percentage of no drinks per week	Mean number of Drinks per person	Mean number of drinks per drinker
20-24	47.8%	1.45	2.78
25-29	31.7%	2.45	3.59
30-34	53.1%	1.82	3.87
35-39	47.4%	2.15	4.10
40+	39.3%	2.70	4.41

This led to an investigation of the differences between age groups and alcohol use rates within the last year, the last 30 days, and episodes of binge drinking (see Table 38). Once again, there was minimal variation between the percentages of students who engaged in drinking within the last year or 30-day period prior to the survey.

However, the comparison of binge drinking rates showed a bit of a trend. The percentage of students involved in episodes of binge drinking seems to decline and almost disappear as the age of the student increases. These data provide the assumption that as students get older, regardless if they drink more per week, they do so in a more responsible manner.

Table 38

Comparison of Alcohol Use Rates Across Age Groups for Students at the UNT Health Science Center

	Used Alcohol in the Last Year	Used Alcohol in the Last 30 Days	Binge Drinking within Last 2 Weeks
20-24	79.5%	67.0%	13.3%
25-29	90.3%	76.0%	22.1%
30-34	70.8%	57.1%	16.3%
35-39	73.7%	68.4%	10.5%
40+	86.2%	65.5%	0.0%

A similar trend exists relative to drugs other than alcohol used by students of UNTHSC. The data in Table 39 reflects no distinctive trend for marijuana use across age groups. However, when the use of drugs other than marijuana is extrapolated from the

Table 39

Comparison of Marijuana Use Rates Across Age Groups for Students at the UNT Health Science Center

	Used Marijuana in the Last Year	Used Marijuana in the Last 30 Days	Used Drugs Other Than Marijuana in the Last Year
20-24	8.0%	2.7%	6.3%
25-29	10.7%	5.8%	5.8%
30-34	2.0%	0.0%	2.0%
35-39	15.8%	5.3%	0.0%
40+	7.1%	3.4%	0.0%

data, there is a distinct pattern of use. The greatest amount of use is occurring with the two groups under 30 years of age. The use for individuals under 30 was shown to be at a statistically significant higher ($p>.05$ with $df=1$) level than the use of individuals over 30.

Finally, the consequences of alcohol use appeared to be greater for students under 30 than for those30 and over. Table 40 identifies the percentages of each age group relative to a variety of consequences related to alcohol use. In all cases, the consequences of use declines as the age of the student increases. Additionally, there was a statistically significant difference ($p>.05$ with $df=1$) between the students over 30 and those younger than 30 relative to suffering the consequences of a hangover, poor test performance, participation in an argument or fight, becoming nauseated or vomiting, missing class, being criticized by an acquaintance, suffering memory loss, and regretting actions. This again reinforces the assumption that older students drink more responsibly than their younger counterparts.

Table 40

Comparison by Age Group of Self-Reported Consequences of Alcohol Use for Students at the UNT Health Science Center

	20-24	25-29	30-34	35-39	40+
Hangover	39.3%	56.3%	37.5%	31.6%	13.8%
Performed Poorly on a Test	4.5%	9.8%	0.0%	0.0%	0.0%
Argument or Fight	14.4%	14.8%	6.3%	5.3%	3.4%
Nauseated or Vomited	32.4%	42.7%	12.5%	10.5%	6.9%
Missed Class	8.0%	10.8%	4.2%	0.0%	0.0%
Criticized by an Acquaintance	11.6%	15.5%	2.1%	0.0%	0.0%
Memory Loss	9.9%	14.6%	6.3%	0.0%	3.4%
Did Something and Regretted it Later	18.0%	23.3%	10.6%	10.5%	6.9%

Ethnicity as a Factor

The ethnicity of the UNTHSC population varied little from the respondents to the questionnaire. The only variation to note was a difference between the Asian and Other groups on the survey when compared to the population data collected from the institution's registrar. This variation can be associated with the self-reporting of ethnicity on the survey, and the definition for categorization by the school. Some international students of Asian descent were categorized by the institution as Other, yet listed themselves as Asian. Therefore, the categories of Asian and Other were combined for the purpose of evaluation.

The difference between students' preferences by ethnicity regarding the availability of drugs at social events or parties was minimal. The numbers reporting such a preference are actually small and therefore showed no statistically significant differences. The Black students showed the highest preference for the availability of drugs at 5.0% followed by Whites at 4.1%, Hispanics at 3.6%, and Asian/Other at 2.6% (see Table 41). However, upon review of the students' preferences for the availability of alcohol, a statistically significant difference ($p>.05$ with $df=1$) does exist between Whites, 71.5% in favor, and Blacks, only 25% in favor. Although there are no other groups that show a statistically significant difference, there were variations that should be noted. Whites reported the greatest desire for the availability of alcohol at 71.5%, the Asian/Other group followed with 59.2%, closely followed by the Hispanic students at 55.6%, and finally the Black students at 25%.

Interestingly, the trend seems to continue between ethnic groups when the percentages of individuals who reported drinking no alcohol in the average week, Black 70%, Asian/Other 55.4%, Hispanic 55.2%, and White 31.7% (see Table 42). The White students reported more regular use, a greater mean number of drinks per student (2.69), and the highest mean number of drinks per drinker (3.94) in a given week. The Black students reported the lowest levels of use with a mean per student of .55 drinks per week and a mean of 1.83 drinks per drinker.

Table 41

Respondents View Towards the Availability of Alcohol or Other Drugs at Parties by Ethnicity

	% have alcohol available	% have other drugs available
White	71.5%	4.1%
Black	25.0%	5.0%
Hispanic	55.6%	3.6%
Asian/Other	59.2%	2.6%

Table 42

Average Number of Drinks Consumed per week by Ethnicity for Students at the UNT Health Science Center

	Percentage of no drinks per week	Mean number of Drinks per person	Mean number of drinks per drinker
White	31.7%	2.69	3.94
Black	70.0%	0.55	1.83
Hispanic	55.2%	1.38	3.08
Asian/Other	55.4%	1.02	2.30

A comparison of use over the last year revealed no statistically significant differences between ethnic groups (see Table 43). If fact, the Black students reported the highest level of use in this category at 84.2% and the Asian/Other students had the lowest level of use at 76.5%. Although, all ethnic groups appear to drink in proportion to each other over the last year, the same did not appear to be true for the thirty days prior to the survey. For this time span, the White students once again dominate with 74.9%, followed by the Hispanic students at 66.7%, then the Asian/Others at 57.3%, and finally, the Black students at 45%. Additionally, during the two weeks prior to the survey, none of the Black students (n=20) who responded to the survey reported an incident of binge drinking, compared to 18.6% for their White counterparts (n=183). This led to the conclusion that although the number of Black students who use alcohol in a given year is in direct proportion to their non-Black counterparts, they tend to drink with less regularity and in less quantity.

Table 43

Comparison of Alcohol Use Rates Across Ethnicity for Students at the UNT Health Science Center

	Used Alcohol in the Last Year	Used Alcohol in the Last 30 Days	Binge Drinking within Last 2 Weeks
White	83.6%	74.9%	18.6%
Black	84.2%	45.0%	0.0%
Hispanic	83.3%	66.7%	10.0%
Asian/Other	76.5%	57.3%	13.3%

This trend showed to be similar for the use of marijuana and other drugs for the year prior to the survey (see Table 44). Once again, none of the Black students enrolled at UNTHSC reported any drug use during the year prior to the survey. While their non-Black peers all reported about a 10% use rate for marijuana in the last year and between 2.4% (Asian/Other) and 4.4% (Whites) during the 30 days prior to the survey. Additionally, all non-Black ethnic groups reported use of drugs other than marijuana in the last year.

Table 44

Comparison of Marijuana Use Rates Across Ethnicity for Students at the UNT Health Science Center

	Used Marijuana in the Last Year	Used Marijuana in the Last 30 Days	Used Drugs Other Than Marijuana in the Last Year
White	9.3%	4.4%	6.6%
Black	0.0%	0.0%	0.0%
Hispanic	10.0%	3.3%	3.3%
Asian/Other	9.9%	2.4%	1.2%

Finally, in review of the consequences of alcohol use, White students were determined to be at the highest level of risk (see Table 45). They were statistically more likely at a significant level ($p>.05$ with $df=1$) to suffer a hangover, get into an argument, or fight than their Black and Asian/Other counterparts. Additionally, Asian/Other Students were less likely at a statistically significant level ($p>.05$ with $df=1$) to drive while under the influence or experience memory loss than their White counterparts.

Table 45

Comparison by Ethnicity of Self-Reported Consequences of Alcohol Use for Students at the UNT Health Science Center

	White	Black	Hispanic	Asian/ Other
Hangover	47.8%	21.1%	40.0%	30.5%
Performed Poorly on a Test	7.7%	0.0%	0.0%	1.2%
Argument or Fight	17.1%	0.0%	3.3%	5.0%
Nauseated or Vomited	32.4%	16.7%	23.3%	24.4%
Driven While Under the Influence	27.5%	15.8%	23.3%	11.0%
Missed Class	9.3%	0.0%	6.7%	4.9%
Criticized by an Acquaintance	10.4%	0.0%	10.0%	8.5%
Thought, "I may have a Drinking Problem"	5.0%	0.0%	0.0%	3.7%
Memory Loss	13.3%	5.3%	3.3%	4.9%
Did Something and Regretted it Later	21.7%	0.0%	6.7%	13.4%

Marital Status as a Factor

UNTHSC did not have any information available regarding students' marital status. Therefore, there was no information available to compare with the data collected on the survey instrument. This limited the level of confidence in the data collected for this category. However, due to the similarities for all other categories for which data were collected, it was assumed that the sample of respondents were a reasonable reflection of the actual population relative to marital status.

It was expected to find that single students would be more likely to use alcohol and other drugs than their married counterparts at UNTHSC. However, no statistically significant differences could be determined relative to alcohol and drug use. As shown in Table 46, two-thirds of single students indicated that they preferred to have alcohol at

parties compared to almost 60% for the married students. Their preferences for the availability of drugs were both around 3.5%.

Table 46

Respondents View Towards the Availability of Alcohol or Other Drugs at Parties by Marital Status

	% have alcohol available	% have other drugs available
Single	66.7%	3.6%
Married	59.7%	3.3%

Their preferences were reflected in their actions. Both groups reported similar rates of no use versus use during an average week. Single students reported a mean of 3.26 drinks per drinker per week compared to 3.06 drinks per week for married students (see Table 47).

Table 47

Average Number of Drinks Consumed per week by Marital Status for Students at the UNT Health Science Center

	Percentage of no drinks per week	Mean number of Drinks per person	Mean number of drinks per drinker
Single	41.2%	1.92	3.26
Married	45.0%	1.68	3.06

Similarities continue between these students relative to reported use in the last year, use during the 30 days prior to the survey, and episodes of binge drinking (see Table 48). During the year prior to the survey, 84.6% of single students used alcohol similar to the 77.5% of married students. Over the 30 days prior to the survey, 69.9% of single students and 64.6% of married students consumed alcohol. The most surprising

finding between married and single students was the failure to reject the null hypothesis relative to the level of binge drinking between the two groups. Episodes of binge drinking occurred for 16.4% of single students and for a surprising 12.3% of married students.

Table 48

Comparison of Alcohol Use Rates Across Marital Status for Students at the UNT Health Science Center

	Used Alcohol in the Last Year	Used Alcohol in the Last 30 Days	Binge Drinking within Last 2 Weeks
Single	84.6%	69.9%	16.4%
Married	77.5%	64.6%	12.3%

Upon comparison of drugs other than alcohol, some differences began to emerge (see Table 49). Single students showed a slightly higher use rate (10.9%) for marijuana in the last year as the married counterparts (4.7%). The single students also showed a statistically significant higher level of use for drugs other than marijuana ($p>.05$ with $df=1$).

Table 49

Comparison of Marijuana Use Rates Across Marital Status for Students at the UNT Health Science Center

	Used Marijuana in the Last Year	Used Marijuana in the Last 30 Days	Used Drugs Other Than Marijuana in the Last Year
Single	10.9%	4.5%	6.3%
Married	4.7%	1.6%	1.5%

Regardless of the similarities in use rates for alcohol and the differences associated with other drugs, the most statistically significant findings regarding marital status revolve around the consequences of alcohol use (see Table 50). Single students were more likely at a statistically significant level ($p>.05$ with $df=1$) than married students to suffer a hangover, experience memory loss, become nauseated, do something they later regretted, become involved in an argument or fight, miss class, perform poorly on a test, or drive under the influence as a consequence of alcohol use. Therefore, it can be concluded that although married and single students use alcohol in similar amounts and frequencies, they do not suffer the same level of repercussions as a result of their use.

Table 50

Comparison by Marital Status of Self-Reported Consequences of Alcohol Use for Students at the UNT Health Science Center

	Single	Married
Hangover	48.0%	28.7%
Performed Poorly on a Test	6.9%	1.6%
Argument or Fight	16.3%	7.0%
Nauseated or Vomited	38.5%	18.6%
Driven While Under the Influence	31.0%	10.9%
Missed Class	12.6%	0.8%
Criticized by an Acquaintance	12.6%	6.2%
Memory Loss	13.7%	3.9%
Did Something and Regretted it Later	24.6%	6.3%

Academic Program as a Factor

Each academic program at UNTHSC was well represented within the group of respondents. A slightly higher percentage of physician assistant and public health students and lower percentage of biomedical science and medical students were represented in the respondent group than occur in the population. However, the difference was not statistically significant.

The comparison between academic programs revealed interesting differences between groups. Upon the initial comparison of preferences for the availability of alcohol and drugs at parties (see Table 51), the physician assistant and biomedical science students were more likely at a statistically significantly level ($p>.05$ with $df=1$) to have a preference for alcohol at parties than their public health counterparts. However, there were no statistically significant differences associated with the preference for drugs at parties.

Table 51

Respondents View Towards the Availability of Alcohol or Other Drugs at Parties by Academic Program

	% have alcohol available	% have other drugs available
Physician Assistant	77.4%	0.0%
Biomedical Sciences	71.0%	3.2%
Public Health	55.1%	5.6%
Medical School	64.4%	3.4%

As shown in Table 51, none of the 32 physician assistant students who responded to the survey had a preference for drugs at a party. This preference contradicts the reported use of drugs by these same individuals (see Table 52). Of those physician

assistants, 12.5% reported using marijuana in the last year and 9.4% indicated that they had used drugs other than marijuana during the same period. Additionally, the physician assistant students reported that 6.3% of them had used marijuana in the 30 days prior to the survey. These use rates are higher than those for any of the other academic programs.

Table 52

Comparison of Marijuana Use Rates Across Academic Programs at the UNT Health Science Center

	Used Marijuana in the Last Year	Used Marijuana in the Last 30 Days	Used Drugs Other Than Marijuana in the Last Year
Physician Assistants	12.5%	6.3%	9.4%
Biomedical Sciences	7.8%	4.8%	6.3%
Public Health	12.2%	4.0%	4.0%
Medical School	5.6%	1.6%	3.2%

Additionally, the physician assistant use rates for amphetamines (9.4%) over the last year were greater than that of the public health (1.0%) and medical (1.6%) programs at a statistically significant level ($p>.05$ with $df=1$). The biomedical students reported amphetamine use at 3.1%. These findings lead to the conclusion that physician assistant students tend to be more involved in the use of illegal drugs than students from other programs at UNTHSC.

In review of alcohol use by academic program, again, the physician assistant students stand out with the lowest percentage of self-reported non-drinkers at 21.9%. This compares to 41.1% of medical, 41.5% of biomedical science, and 51.5% of public health students. However, it must be noted that despite the large difference in percentages, no statistically significant difference could be shown. This was also the case when

comparing the mean number of drinks per respondent and the mean number of drinks per drinker. Interestingly enough, the physician assistant students reported the lowest mean number of drinks per drinker at 2.92. The students in the biomedical sciences reported the highest level of drinks per drinker, 4.53 drinks per week (see Table 53).

Table 53

Average Number of Drinks Consumed per week by Degree Program for Students at the UNT Health Science Center

	Percentage of no drinks per week	Mean number of Drinks per person	Mean number of drinks per drinker
Physician Assistant	21.9%	2.28	2.92
Biomedical Sciences	41.5%	2.65	4.53
Public Health	51.5%	1.74	3.58
Medical School	41.1%	1.81	3.07

Upon further comparison of alcohol use between programs, 90.6% of physician assistant students reported using alcohol in the last year (see Table 54). Similar levels of use occurred for public health students (82.8%) medical students (80.6%), and biomedical science students (79.7%). The physician assistant students also recorded the highest percentages for alcohol use within the 30 days prior to the survey (87.5%) and the episodes of binge drinking (25%). While the public health students showed the lowest levels of use with in the 30-day period (59%) and fewest incidents of binge drinking (11%) per student. Despite these reported levels of use, the only statistically significant differences ($p>.05$ with $df=1$) that could be determined using the chi square on a cross-tabulation were between the physician assistants use of alcohol during the 30 days prior

to the survey and the levels of use reported by both the public health and biomedical science students.

Table 54

Comparison of Alcohol Use Rates Across Academic Programs at the UNT Health Science Center

	Used Alcohol in the Last Year	Used Alcohol in the Last 30 Days	Binge Drinking within Last 2 Weeks
Physician Assistants	90.6%	87.5%	25.0%
Biomedical Sciences	79.7%	67.2%	16.9%
Public Health	82.8%	59.0%	11.0%
Medical School	80.6%	71.0%	14.5%

The most notable differences between the academic programs come in regards to the consequences of alcohol use (see Table 55). The physician assistant students were statistically more likely ($p>.05$ with $df=1$) to suffer a hangover and drive while under the influence of alcohol than students in public health or medical school. Additionally, the biomedical science students reported fewer incidents of nausea and vomiting at a statistically significant level ($p>.05$ with $df=1$) than the physician assistant students. Public health students were less apt at a statistically significant level ($p>.05$ with $df=1$) to have done something they regretted after drinking alcohol than students in both the biomedical sciences and physician assistant programs. Finally, biomedical science students were statistically more likely ($p>.05$ with $df=1$) to be criticized for their use than their public health or medical counterparts.

Table 55

Comparison by Academic Program of Self-Reported Consequences of Alcohol Use at the UNT Health Science Center

	Physician Assistant	Biomedical Sciences	Public Health	Medical School
Hangover	68.7%	47.6%	36.0%	35.8%
Performed Poorly on a Test	9.4%	3.1%	2.0%	6.5%
Argument or Fight	13.3%	14.1%	9.2%	12.2%
Nauseated or Vomited	43.7%	28.6%	25.3%	28.5%
Driven While Under the Influence	40.6%	23.4%	18.2%	20.3%
Missed Class	9.4%	3.2%	6.1%	9.8%
Criticized by an Acquaintance	9.4%	18.7%	6.1%	7.3%
Memory Loss	18.7%	9.4%	9.1%	7.4%
Did Something and Regretted it Later	25.0%	21.9%	10.2%	18.0%

Comparison to the National Data Set for the Year 2000

The national data set was drawn from a sample of 55,026 students at colleges throughout the United States that conducted the CORE Alcohol and Drug Survey sometime during the year 2000. Each institution used methods of random sampling and demonstrated that the sample was representative of their respective campuses. This national data set was the only one available from the CORE Institute for comparison purposes.

There were no statistically significant differences between the national data set and students at UNTHSC relative to the perceptions that alcohol helps break the ice, enhances social activity, facilitates a connection with peers, allows people to have more fun, gives people something to do, and facilitates sexual opportunities (see Table 56).

Table 56

A Comparison of the UNT Health Science Center and the National Data Set for 2000 on Perception of Alcohol Effects

	Health Science Center	National Data Set 2000
Breaks the Ice	61.8%	72.5%
Enhances Social Activity	60.9%	71.7%
Facilitates a connection with peers	46.2%	56.5%
Allows People to Have More Fun	45.6%	57.6%
Gives People Something to Do	52.1%	67.4%
Facilitates Sexual Opportunities	41.5%	50.6%

The percentage of students who used alcohol during the year prior to the survey is also similar for both groups (see Table 57). Students at UNTHSC reported use rates of 82.1% over the last year compared to 84.1% students in the national data set.

Table 57

Comparison of Alcohol Use Rates for the UNT Health Science Center and the National Data Set for the Year 2000

	Used Alcohol in the Last Year	Used Alcohol in the Last 30 Days	Binge Drinking within Last 2 Weeks
Health Science Ctr.	82.1%	68.1%	15.0%
National Data Set	84.1%	72.1%	46.5%

Similarly, use rates over the 30 days prior to the survey were both around 70%. However, a statistically significant difference ($p>.05$ with $df=1$) was found between the percentages of students who were involved in an incident of binge drinking over the two-week period

prior to the survey. Only 15% of UNTHSC students reported an episode of binge drinking as opposed to 46.5% of the national data set.

The differences in drinking habits between the national data set and students at UNTHSC can be further exemplified upon review of the mean drinks per respondent. The national average was reported at 5.85 drinks per week while UNTHSC students indicated a consumption rate of 2 drinks per week (see Table 58).

Table 58

Comparison of the UNT Health Science Center and the National Data Set for the Year 2000 of the Alcoholic Drinks per Week

	Health Science Center	National Data Set 2000
Mean	2.00	5.85

The greatest differences between the national data set and the UNTHSC students were found in a comparison of the consequences of ones own alcohol use (see Table 59). The national sample reported statistically significant higher levels in all of the categories reported ($p>.05$ with $df=1$). Nationally, 62.6% of students had suffered a hangover, 23.5% performed poorly on a test, 13.7% experienced trouble with the authorities, 8.2% damaged property, 30.8% engaged in an argument or fight, 53.2% became nauseated, and 33.1% missed class as a result of their alcohol use. These numbers compare to only 41.5% of UNTHSC students experiencing a hangover, 4.7% performed poorly on a test, 1.3% experienced trouble with the authorities, 0.9% damaged property, 11.7% engaged in an argument or fight, 29% became nauseated, and a mere 7.3% missed class as a result of their alcohol use. Similar percentages were reported for all other categories of use.

Table 59

Comparison of the UNT Health Science Center and the National Data Set for 2000 on Self-Reported Consequences of Alcohol Use

	UNT Health Science Center	National Data Set
Hangover	41.5%	62.6%
Performed Poorly on a Test	4.7%	23.5%
Trouble with Authorities	1.3%	13.7%
Damaged Property	0.9%	8.2%
Argument or Fight	11.7%	30.8%
Nauseated or Vomited	29.0%	53.2%
Driven While Under the Influence	22.3%	32.5%
Missed Class	7.3%	33.1%
Criticized by an Acquaintance	9.4%	30.3%
Thought, "I may have a Drinking Problem"	4.1%	10.7%
Memory Loss	9.5%	31.7%
Did Something and Regretted it Later	17.1%	38.2%
Been Taken Advantage of Sexually	3.5%	11.7%
Tried Unsuccessfully to Stop Using	0.6%	5.8%
Seriously Thought about Suicide	1.6%	4.6%
Hurt or Injured	2.5%	14.3%

This trend continued for the consequences suffered due to other student's use of alcohol (see Table 60). Only 7.3% of UNTHSC students compared to 28.1% of the national data set reported that someone else's use of alcohol interrupted their ability to study. Similarly, 25.4% of the national data set reported that other individuals' use disrupted their living space as opposed to only 8.9% of UNTHSC students. A chi square test was conducted to determine the relationship between the finding of students at UNTHSC and the expected finding as represented in the national data set. In both cases, the null hypothesis was rejected and a statistically significant difference found ($p>.05$ with $df=1$). However, one of the more interesting findings was the only one for which

there was no statistically significant difference. In fact, it was the only consequence category that UNTHSC students reported a higher level than the national data set. Upon comparison of the consequences of other's use of alcohol, 15.5% of the national sample and 16.4% of UNTHSC students responded that it prevents them from enjoying an event.

Table 60

Comparison of the UNT Health Science Center and the National Data Set for 2000 on Perception of the Ways Other Students' Drinking Interferes life On or Around Campus

	Health Science Center	National Data Set 2000
Interrupts Your Studying	7.3%	28.1%
Messes Up your Physical Living Space	8.9%	25.4%
Prevents you from Enjoying Events	16.4%	15.5%
Interferes in Other Ways	18.0%	28.7%

Although UNTHSC students reported similar use rates of alcohol relative to the national data set, they showed statistically significant ($p>.05$ with $df=1$) lower use rates in every drug category (see Table 61). Nationally, 33.6% of students indicated that they had used marijuana in the last year. Only 8.8% of UNTHSC students reported marijuana use. The designer drugs were the next most popular on the national level at a 9.1% use rate. Again, UNTHSC students reported a use rate of 2.2% for designer drugs. These data indicate that although students at UNTHSC drank at a similar rate as students in the national data set, their use of other drugs is minimal in comparison.

Table 61

Comparison of the UNT Health Science Center and the National Data Set for 2000 Relative to the Most Frequently Reported Alcohol and Other Drugs Used in the Last Year

	UNT Health Science Center	National Database
Alcohol	82.1%	84.1%
Marijuana	8.8%	33.6%
Amphetamines	2.5%	7.6%
Cocaine	0.9%	5.0%
Sedatives	0.0%	4.1%
Hallucinogens	0.6%	6.6%
Opiates	0.0%	1.5%
Inhalants	0.3%	1.9%
Designer Drugs	2.2%	9.1%
Steroids	0.0%	0.8%
Other	0.0%	2.5%

Summary of Findings

Statistically significant findings are reported for students at UNTHSC in relation to perceptions of use, actual use, reasons for use, and consequences for use. Several statistically significant differences within the UNTHSC community are shown to exist between age groups, genders, marital statuses, ethnicities, and academic programs. Additionally, the UNTHSC students reported statistically significant differences relative to the level of alcohol and drug use, as well as, consequences of use than the students represented in the national data set for the year 2000.

Although students at UNTHSC perceive their alcohol and drug use levels to be higher than the level represented in the national data set, their actual use rates were less than expected by a statistically significant margin. Upon further comparison with the national data set it became clear that alcohol use was at a comparable level for both

groups. However, all other drug related behaviors were higher for the national data set at a statistically significant rate. Additionally, students at UNTHSC indicated a lower average use rate for alcohol per week and fewer consequences as a result of their use than the national data set. This leads to the assumption that students at UNTHSC are more responsible relative to their use of alcohol and other drugs.

Some interesting findings within the UNTHSC response group were also found. Students enrolled in UNTHSC who had their first alcoholic beverage prior to their 21st birthday were more likely at a statistically significant level to participate in an episode of binge drinking or use marijuana. Additionally, there is a statistically significant association between binge drinking and marijuana use among UNTHSC students. Students who indicated that they drank at parties and in their personal residences were prone to average more than five drinks per week. Binge drinking was directly associated with the perception of social benefits to the user. Stress as a reason for drinking was found to be associated with both the incidents of binge drinking and the level of alcohol consumption within a given week.

In a comparison of genders, there was a failure to reject the null hypothesis on every variable except the level of marijuana use in the 30 days prior to the survey. This single difference was believed to be an anomaly within the data collected. Therefore, the conclusion was that there were no statistically significant differences among students at UNTHSC based on gender.

The evaluation of age as a factor did however produce a few statistically significant findings. First, students under 30 years of age were more likely to engage in

the use of marijuana and suffer some of the consequences of alcohol use than their elders. The younger UNTHSC students reported statistically significant higher rates for hangovers, poor test performance, fighting, nausea, class absences, and memory loss as a direct result of their personal use of alcohol.

In regards to ethnicity, the White students reported statistically significant higher levels of preferences for alcohol and consequences of alcohol use than Black students. Additionally, the Asian/Other students were less likely to drive while under the influence of alcohol, suffer a hangover, fight, or have memory loss as a result of personal alcohol use than their White peers.

There were no statistically significant differences between married students and single students on most of the variables reviewed. However, the single students did report statistically significant higher use rates for drugs other than alcohol and marijuana. They also experienced the consequences of their alcohol use at a statistically significant higher rate than their married counterparts.

Some of the more interesting findings occurred between academic programs at UNTHSC. Although the percentages of individuals who used alcohol only varied to a minimal degree, the physician assistant and biomedical science students had a statistically significant higher preference rate relative to the desire to have alcohol available at parties than the public health students. The physician assistant students were also more likely than the public health and medical students to suffer hangovers and drive while under the influence of alcohol. The physician assistant students were also more apt to suffer from nausea and vomiting as a result of drinking than their peers in the biomedical sciences.

The public health students reported doing something they regretted as a result of alcohol use at a statistically significant lower rate than their physician assistant and biomedical science colleagues. Finally, in a review of drug related behaviors, it was found that the physician assistant students reported statistically significant levels of amphetamine use when compared to both public health and biomedical science students.

Although UNTHSC students reported statistically fewer consequences of alcohol use, episodes of binge drinking, and rates of drug use than the national data set, these behaviors still exist and need to be properly addressed.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The use of alcohol and other drugs by students enrolled in our nation's institutions of higher education has gained a great deal of attention over the last twenty years. Nonetheless, college and university administrators have been unable to identify a means by which to minimize the use and abuse of alcohol and other drugs on campus populations. Although there has been a strong focus on drug prevention, the frequency of alcohol related incidents continues to rise among the college student population in the United States (Presley, Meilman, & Lyerla, 1994). Therefore, this study was conducted to examine attitudes, incidents, and consequences of alcohol and other drug use among students enrolled in a variety of academic disciplines at the University of North Texas Health Science Center (UNTHSC).

In support of the purpose of this study, the CORE Alcohol and Drug Survey long form, FIPSE-form 194, (see Appendix A) was utilized to collect data from the UNTHSC population. The first CORE Alcohol and Drug Survey appeared in 1989 and has been slightly revised since that time. Currently, several hundred thousand students nationwide have participated in studies involving a version of this instrument.

During the construction of the instrument, a panel of experts reviewed each item to ensure content related validity (Presley, Meilman, & Leichliter, 1998). Items were

selected for inclusion upon receiving an inter-rater agreement of .90. The Pearson product-moment correlation coefficient (*r*) was utilized to measure the relationship between variables. The results support the claims of stability and reliability of the CORE Alcohol and Drug Survey. Additionally, item reliability was tested using Cronbach alpha scores and item-to-total-test correlations for a selection of individual items. In almost all cases, the results from the measures met the criteria for inclusion (Presley et al., 1998). Therefore, a valid, reliable, and standardized instrument with an aggregated national database was available for comparison purposes (Presley, Meilman, & Lyerla, 1994).

The CORE Alcohol and Drug Survey consists of 39 items which cover the following areas: demographics, approximate grade point average, campus culture, personal alcohol and drug use behaviors, perceptions of other's alcohol and drug use behaviors, family history of use, and consequences of use to the subject and others on campus (Meilman, Presley, & Cashin, 1997).

The survey was administered in the Fall of 2001 and completed prior to the Thanksgiving/Fall Break. The first distribution of the survey took place during the second week of September 2001. The individual surveys were coded to indicate the academic program to which the respondent belonged. A separate code was used for each of the following four academic programs: medical students, physician assistant students, graduate students in the biomedical sciences, and graduate students in public health. One week prior to the distribution of the survey, a letter was sent to each selected participant. The letter served three purposes: an invitation to participate, an explanation of the purpose, and an assurance of anonymity. The following week, the survey packet was sent

through the U.S. Postal Service to each selected student's local address. The survey packet contained a cover letter, copy of the CORE Alcohol and Drug Survey, a self-addressed and postage paid return envelope for the survey, a Research Study/Participant Information Sheet, and a pencil. Since there was no method for knowing who responded to the first mailing, the cover letter for the second and third mailings included instructions to destroy the survey if the subject had already completed and returned a prior copy of the instrument. This measure was taken to eliminate the potential of one subject completing multiple surveys. One week after the initial distribution of the survey, a reminder postcard was sent to all subjects. The following week, a second survey packet was sent to all subjects. During the next two weeks, another postcard and a third survey packet was sent to all subjects.

Upon completion of the administration of the CORE Alcohol and Drug Survey, the questionnaires were mailed to Southern Illinois University at Carbondale, home of the CORE Institute, for machine scoring by optical scanner. A computer disk containing the raw data in an SPSS format was returned with a report relative to the variables in question. Descriptive statistics (chi-squares, means, and percentages) were utilized to determine the relationships between the variables of gender, age, marital status, ethnicity, and academic program. Additionally, descriptive statistics were used to compare the findings for UNTHSC with the national database for graduate and professional students. The national database is currently the largest existing database on alcohol and drugs in postsecondary education and the only one that can extrapolate data for graduate and professional students (Presley, Meilman, & Lyerla, 1994).

Review of Research Questions, Expected Outcomes, and Findings

Research Question 1 asked: *What is the nature and extent of alcohol and drug related behaviors among students at the University of North Texas Health Science Center?* Based on national norms, the expectation was that alcohol consumption would occur in about 90% of the population and about 30% would have participated in episodes of heavy drinking within the 2 weeks prior to the survey. Additionally, it was expected that drug use would be reported for about 10% of the population over the year prior to the survey. The findings indicated that 82.1% of UNTHSC students used alcohol in the last year. This did not constitute a statistically significant difference based on the expected finding. However, the null hypothesis was rejected relative to the level of binge drinking which occurred for the population. UNTHSC students reported a binging rate of only 15%. This was half of the anticipated rate. Finally, the percentage of students who used a drug other than marijuana during the year prior to the survey approximated the expected level of usage.

Research Question 2 asked: *What are their reasons for using alcohol and drugs?* It was expected to find that the predominant reasons for using alcohol and other drugs would be related to peer culture, social events, and dealing with high levels of stress. However, the findings suggested that the culture of UNTHSC was not supportive of heavy alcohol use and disapproved of drug use. While 60.9% of students felt that alcohol enhances social interactions, only 29% indicated that the social atmosphere of the campus promoted alcohol use. Similarly, only 2.6% of students reported that the campus climate promotes drug use. In fact, 62.3% of the respondents felt that their peers would

disapprove if a fellow student had tried marijuana on one or two occasions during their lifetime. One of the most interesting statistically significant relationships that emerged from the data was related to the social atmosphere that exists on the UNTHSC campus. Students who reported bragging about their alcohol or drug use were more likely to be criticized by other students for their use of alcohol and other drugs. This led to the conclusion that the overall campus climate is not supportive of excessive alcohol or drug use.

In a review of stress as a factor for alcohol use on the UNTHSC campus, the data indicated that less than one in every three students felt that alcohol could reduce their stress level. However, a statistically significant relationship was found between drinking as a means to cope with stress and incidents of binge drinking. Similarly, students who drank to reduce stress were found to be more likely at a statistically significant level to drink more than five alcoholic beverages per week. This led to the conclusion that UNTHSC students who drink to minimize stress consume alcohol more frequently and in greater quantity than their peers who drink for other reasons.

Research Question 3 asked: *What are the consequences of alcohol and drug use?* Expected results included a positive relationship between the average number of drinks consumed and the self reported grade point average. Students consuming large amounts of alcohol on a weekly basis were anticipated to have a negative correlation to their self reported value, connection to campus, and awareness of campus programs and policies. Additionally, it was expected that over half of the students had a negative experience related to drinking or drug use during the last year. There were no statistically significant

relationships or associations that could be established from the data collected regarding any of these expected findings. Surprisingly, grades and a student's feeling of value were evenly distributed between non-drinkers and drinkers. Additionally, the estimation that 50% of students had suffered the consequences of personal or peer alcohol use was completely dismissed by the data. Of the entire UNTHSC student body, only 41.5% had ever suffered a hangover, 29% felt nauseated, and 4.7% performed poorly on a test as a result of alcohol use. These findings again suggest that the UNTHSC students use alcohol in moderation and do not allow it to interfere with the roles as members of the campus community.

Research Question 4 asked: *How do these findings compare across gender, age, ethnicity, marital status, and degree program?* Literature in this area led to the expectation that higher levels of use and problems associated with use would be found among males, younger students, White (non-Hispanic) individuals, single students, and those involved in medical and physician assistant studies. The majority of these expectations were confirmed by the data collected. Although no statistically significant gender differences were found in the data, male students did report a higher level of alcohol and other drug use than their female peers.

The review of age as a factor turned up several statistically significant findings. Although the percentage of drinkers did not vary between age groups, students under the age of 30 were more likely at a statistically significant level to suffer a variety of consequences related to their own alcohol use. They reported a higher rate of hangovers, poor test performance, fights, nausea, missing class, and memory loss.

Similarly, many statistically significant findings could be attributed to ethnicity. Initially, a statistically significant difference was found between the preferences of Whites versus Blacks regarding the availability of alcohol at social events. Slightly over 70% of Whites preferred alcohol to be available compared to only 25% of Blacks. Although the only statistically significant finding occurred between these two ethnically diverse groups, all non-White groups reported their preferences at a rate of at least 20% less than their White counterparts. Blacks and Asian/Other students were also less likely at a statistically significant level to experience a hangover or fight as a consequence of their alcohol use than White students. Finally, White students reported statistically significant higher incidents of driving while intoxicated than their Asian/Other peers.

Single students were also found to suffer several consequences of alcohol use at a Statistically significant higher rate than their married colleagues. They reported statistically higher incidents per capita for hangovers, memory loss, nausea, arguments, class absences, poor test performance, and driving while under the influence. Additionally, single students at UNTHSC were more apt at a statistically significant level to smoke marijuana than married students.

Although there were only minimal differences in the percentage of students in each academic program that reported drinking or using drugs, some interesting differences emerged from the data. First, the null hypothesis could not be rejected for every comparison of medical students to either the biomedical science or public health students. Thus, medical students exhibited similar attitudes, behaviors, and consequences of alcohol use as their non-clinical counterparts. In fact, the medical students reported a

statistically significant lower level of consequences suffered as a result of alcohol use than the physician assistant students. These differences included the percentage of hangovers suffered and incidents of driving while intoxicated. The physician assistant students enrolled at UNTHSC reported the highest levels of alcohol use in the last year, the last 30 days, and episodes of binge drinking in the two weeks prior to the survey. The physician assistant students were also more likely at a statistically significant level to suffer a variety of consequences as a result of alcohol use than students in all of the other programs. This trend continued as the levels of drug use were compared across programs. Again, the physician assistant students indicated the highest levels of marijuana and other drug use and their use of amphetamines was greater at a statistically significant level than both the public health and medical students. Therefore, as expected, the physician assistant students were more likely than their non-clinical peers to have higher levels of use and problems associated with use. However, the same could not be shown for medical students at UNTHSC.

Finally, Research Question 5 asked: *How do these findings compare with the CORE Alcohol and Drug Survey national database?* The results of similar studies on graduate and professional student populations created the expectation that a lower rate of use and abuse would be reported for the UNTHSC student population than for the undergraduate norm group. This expectation was supported for the majority of data collected from the students at UNTHSC. Surprisingly, the percentage of students who reported drinking alcohol in the last year and the 30 days prior to the survey were very similar in nature to the national norms. However, many differences emerged relative to

the level of consumption and consequences of alcohol use. Nationally, 46.5% of students reported incidents of binge drinking during the two weeks prior to the survey. This compares to only 15% of UNTHSC students. Similarly, the mean number of drinks reported in the national data set was 5.85 per week and only 2.00 per week for UNTHSC students. Additionally, UNTHSC students were less likely at a statistically significant level to suffer any consequences of alcohol or drug use than members of the national data set. Additionally, drug use among students on the UNTHSC campus occurred at a statistically significant lower level than reported for the national data set. These findings are not surprising since UNTHSC focuses on graduate and professional education and does not enroll undergraduate students. Therefore, these finding do not hold a great deal of value until they can be compared with other graduate and professional students at an academic health science center.

Conclusions

This study examined the perceptions of alcohol and other drug use, actual use of alcohol and other drugs, and consequences of use in a population of graduate and professional students at an academic health science center. Several conclusions can be determined as a direct result of the data collected for this study.

- The vast majority of students at UNTHSC do not use drugs and do not approve of their peers doing so. In fact, no use was reported for many of the illegal drugs investigated in the study.
- Students in the physician assistant program are more likely than students in other academic disciplines to use amphetamines and suffer several of the consequences of

alcohol use. Therefore, an intervention program should be implemented for this sub-population to address the potential consequences and help available to students relative to substance use and abuse, e.g., amphetamines and alcohol.

- Although about eight of every ten students drink, they reported doing so in a responsible manner. However, some sub-populations, White students, students under 30 years of age, single students, and those who reported drinking prior to their 21st birthday, were identified as high risk for heavy drinking, drug use, and suffering the consequences of alcohol use. Therefore, education and prevention efforts should be targeted to these groups within the population.
- The campus environment does not support the irresponsible use of alcohol. In fact, individuals who brag of their alcohol related escapades are more likely to be criticized by their peers for their use of alcohol. However, almost one of every four students reported driving while under the influence of alcohol. Therefore, there is no need to develop a comprehensive alcohol prevention program for the campus. Instead, a campus-wide effort should be made to minimize the number of students willing to drive while intoxicated.
- The students who are participating in episodes of binge drinking are more likely to perceive that drinking enhances their ability relate to others in a social setting. The binge drinkers are also more apt to be involved in the use of marijuana. Therefore, an effort needs to be made to identify these at risk students and provide appropriate interventions on their behalf.

- Students who drink to reduce stress tend to drink more frequently and in larger quantities than their peers. Thus, programs should be developed to reduce the level of stress perceived by students at UNTHSC.

The results from this research study indicated that the level of alcohol and drug use and consequences of this use by students at UNTHSC did not constitute a major problem on campus. However, there were some areas for concern. One key finding was that the students at UNTHSC reported driving under the influence of alcohol at a similar rate as the undergraduate students represented in the national data set. Additionally, a review of alcohol and drug use, consequence of that use, and reasons for use produced a variety of statistically significant findings relative to sub-populations within the UNTHSC community.

Almost nine of every ten students at UNTHSC reported concern regarding the use of alcohol and drugs by their peers. This concern was the first indication that the UNTHSC student body was not supportive of drug use or excessive drinking. This fact was confirmed by the statistically significant relationship identified between students who bragged about their use and those who were criticized for their use. This supports a campus environment that is not tolerant of behaviors that may disrupt the learning environment and detracts for the health related mission of the institution.

Although the campus climate does not support alcohol and drug use, several sub-populations within the student body provided indicators for increased use levels. Students who began drinking prior to their 21st birthday were more likely to smoke marijuana and participate in episodes of binge drinking than other students. Additionally, students under

the age of 30 were more apt to engage in illegal drug use, other than marijuana, and suffer consequences as a result of their alcohol use. Finally, the students who indicated that alcohol use was a means to reduce stress reported statistically significant elevations in the level of alcohol use in a given week and participation in episodes of binge drinking.

Additional indicators were identified as the data were extrapolated to compare ethnicity, marital status, and academic program. The study indicated that White students had a greater preference for alcohol and were more likely to suffer some of the consequences of their use than their non-White counterparts. Specifically, Whites suffered a statistically significant higher percentage of hangovers than either Asian/Other or Black students and were more likely to drive under the influence of alcohol than Asian/Other students. Similarly, single students were also more likely than their married counterparts to suffer the consequences of use including hangover, memory loss, nausea, fighting, missing class, poor test performance, and driving while intoxicated. Finally, in a comparison of academic programs, there were minimal differences in the percentage of students who used alcohol. However, the physician assistant students reported a higher preference for the availability of alcohol and use of amphetamines than their public health or medical student colleagues. Additionally, the physician assistant students reported a greater frequency of consequences related to alcohol use at a statistically significant level than their peers in other academic disciplines.

Although the comparison of alcohol and drug related attitudes and behaviors are significantly lower for students at UNTHSC than those represented in the national data

set, problematic behaviors are still reported among sub-populations within the community. Therefore, prevention and awareness programs on drug and alcohol related issues should be targeted to the sub-populations with the greatest level of risk. These sub-populations include, White students, single students, students under the age of 30, students who began drinking prior to their 21st birthday, and students in the physician assistant program. Finally, a campus-wide effort should be conducted to create a greater awareness of the dangers of drinking and driving.

Recommendations

The data collected in conjunction with this research study are the first step in addressing an issue that constitutes a problem for members of all academic health science centers. UNTHSC houses one of eight medical programs in Texas and one of the almost two hundred programs in the United States. Similarly, the institution's School of Public Health is one of only 31 in the United States. A review of higher education in the United States reveals that there are only a couple of dozen institutions with similar populations to UNTHSC. This report has implications that should be considered by all of these institutions. However, the findings are of the most value and relevance to the UNTHSC community.

Administrators at UNTHSC should further evaluate this report to determine appropriate measures for addressing the identified issues. Additional research needs to be conducted within the campus community to further understand the campus culture relative to alcohol and drug use. This research should include students as well as faculty, staff, and administration. This research should take the form of surveys and focus groups.

These additional studies will promote a greater understanding of the sub-cultures between academic programs and the nature of the problems that persist within the campus community. Despite the need for additional research, a number of recommendations can be made in relation to the UNTHSC student population as a result of the data collected for this project.

The following are recommendations for consideration as a result of this research project.

- An institutional report should be generated detailing the data collected and a specific plan of action. This report should include a marketing plan for the promotion of responsible use of alcohol and the elimination of drug related behaviors.
- Since more than one in every five students reported driving under the influence of alcohol, a campus-wide marketing campaign should be developed immediately to deter students from drinking and driving.
- A safe ride or designated driver program should be presented to the student government bodies on campus in an attempt to generate student support for such programs.
- Since almost nine of every ten students on campus expressed some concern regarding the level of alcohol and other drug use among students at UNTHSC, the student personnel staff on campus should be encouraged to work with student organizations to eliminate alcohol as a focal activity for social events. The student government bodies that plan institutional student programs should be advised to provide alcohol free events.

- Since one of every three students are unaware of the current institutional policies on alcohol and other drugs and over 80% have no knowledge of current prevention or intervention programs offered at UNTHSC, the administration should take steps to enhance the level of knowledge regarding current alcohol and drug related policies. Additionally, they should develop a policy relative to the use of student organization funds for the purchase and distribution of alcohol at institutional events.
- Due to the level of amphetamine use reported by students in the physician assistant program, an intervention effort should be developed and implemented for this subpopulation. Additionally, efforts should be made within the physician assistant program to reduce the percentage of students suffering the consequences of alcohol use.
- Since stress is an indicator of drinking behaviors, programs and counseling services should be made available to reduce the stress levels experienced by students. This could potentially reduce the level and frequency of student drinking which occurs.
- UNTHSC should conduct a similar study for the faculty, staff, and administration. This would allow for a greater understanding of the campus environment relative to alcohol and drug related behaviors. Additionally, this would allow the institution to address these groups in the development of a comprehensive marketing plan aimed at reducing the current levels of use and consequences of that use.
- The administrators at UNTHSC should promote similar studies at the other academic health science centers in the United States. This would provide a national data set that is more homogenous for comparison purposes than any other currently available.

- Finally, UNTHSC should conduct this survey on an annual or biannual basis to further identify trends and issues that warrant further attention.

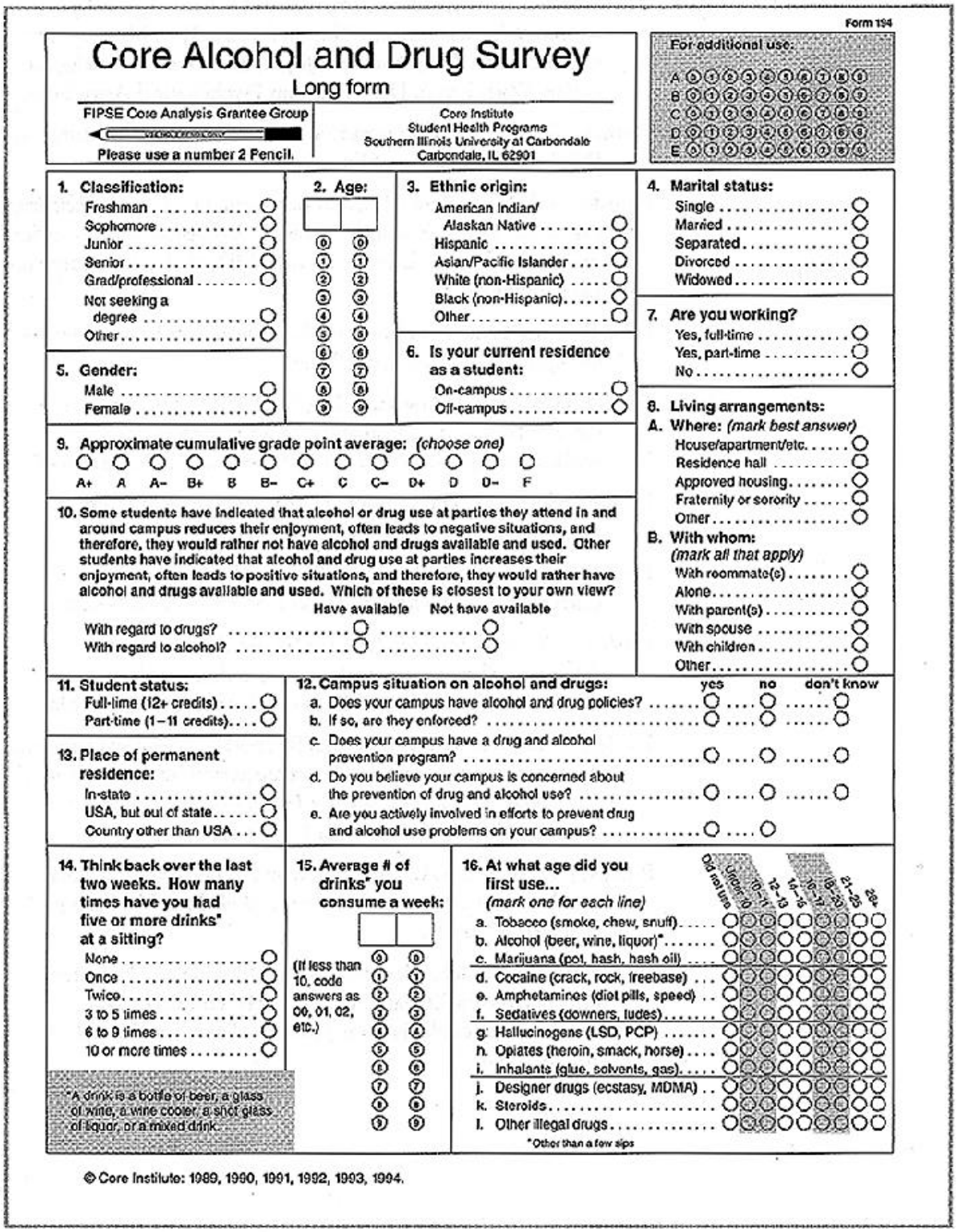
The goal of these measures is not to eliminate the use of alcohol by students, rather to create an awareness of alcohol use, the consequences that result from its use, and the value of responsible use. The focus is to minimize the consequences of use and thus promote a safer and healthier campus community. Educational programs for students, faculty, staff, and administrators will not be enough to change the current attitudes that exist on campus. The key to a successful program is to establish support from the most influential groups on campus. The student government bodies, student organization officers, and key administrators must buy into and promote this initiative. Without the support of these key players within the institutional community, educational programs and marketing efforts will have a minimal effect.

While this study is a good first step in the assessment of alcohol and drug use on the UNTHSC campus, it should not be the last one. Additional studies should be conducted for all facets of the UNTHSC community. They should include students, faculty, staff, and administration. The assessments should be continued on an annual or biannual basis to identify trends and evaluate the success of current intervention and prevention efforts. Additional studies should be promoted at all of the academic health science centers in the United States. The results of these studies would provide a national data set for comparison purposes. Additionally, national trends could also be identified and intervention efforts coordinated between campuses. Currently, such data do not exist.

This study has identified the need to investigate alcohol and drug related attitudes, behaviors, and consequences among students studying for professions in health related fields. However, the findings are only relevant to UNTHSC and cannot be generalized to any other population. The study did provide a greater understanding of the students' alcohol and drug related behaviors as they relate to the UNTHSC campus. This new knowledge will help administrators, student personnel professionals, and student leaders at UNTHSC to better understand students' use of alcohol and other drugs, their reasons for drinking, and consequences suffered as a result of their drinking. Thus, this study provides a guide for the development of appropriately targeted prevention and intervention programs. Program and policy changes have the potential to enhance the quality of life and the academic experience for members of the UNTHSC community.

APPENDIX – A

CORE Alcohol and Drug Survey



Form 194

Core Alcohol and Drug Survey

Long form

FIPSE Core Analysis Grantee Group

Please use a number 2 Pencil.

Core Institute
Student Health Programs
Southern Illinois University at Carbondale
Carbondale, IL 62901

For additional use:

1. Classification:
Freshman
Sophomore
Junior
Senior
Grad/professional
Not seeking a degree
Other

2. Age:

3. Ethnic origin:
American Indian/ Alaskan Native
Hispanic
Asian/Pacific Islander
White (non-Hispanic)
Black (non-Hispanic)
Other

4. Marital status:
Single
Married
Separated
Divorced
Widowed

5. Gender:
Male
Female

6. Is your current residence as a student:
On-campus
Off-campus

7. Are you working?
Yes, full-time
Yes, part-time
No

8. Living arrangements:
A. Where: *(mark best answer)*
House/apartment/etc.
Residence hall
Approved housing
Fraternity or sorority
Other
B. With whom: *(mark all that apply)*
With roommate(s)
Alone
With parent(s)
With spouse
With children
Other

9. Approximate cumulative grade point average: *(choose one)*
A+ A A- B+ B B- C+ C C- D+ D D- F

10. Some students have indicated that alcohol or drug use at parties they attend in and around campus reduces their enjoyment, often leads to negative situations, and therefore, they would rather not have alcohol and drugs available and used. Other students have indicated that alcohol and drug use at parties increases their enjoyment, often leads to positive situations, and therefore, they would rather have alcohol and drugs available and used. Which of these is closest to your own view?

	Have available	Not have available
With regard to drugs?		
With regard to alcohol?		

11. Student status:
Full-time (12+ credits)
Part-time (1–11 credits)

12. Campus situation on alcohol and drugs:

	yes	no	don't know
a. Does your campus have alcohol and drug policies?			
b. If so, are they enforced?			
c. Does your campus have a drug and alcohol prevention program?			
d. Do you believe your campus is concerned about the prevention of drug and alcohol use?			
e. Are you actively involved in efforts to prevent drug and alcohol use problems on your campus?			

13. Place of permanent residence:
In-state
USA, but out of state
Country other than USA

14. Think back over the last two weeks. How many times have you had five or more drinks* at a sitting?
None
Once
Twice
3 to 5 times
6 to 9 times
10 or more times

*A drink is a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor, or a mixed drink.

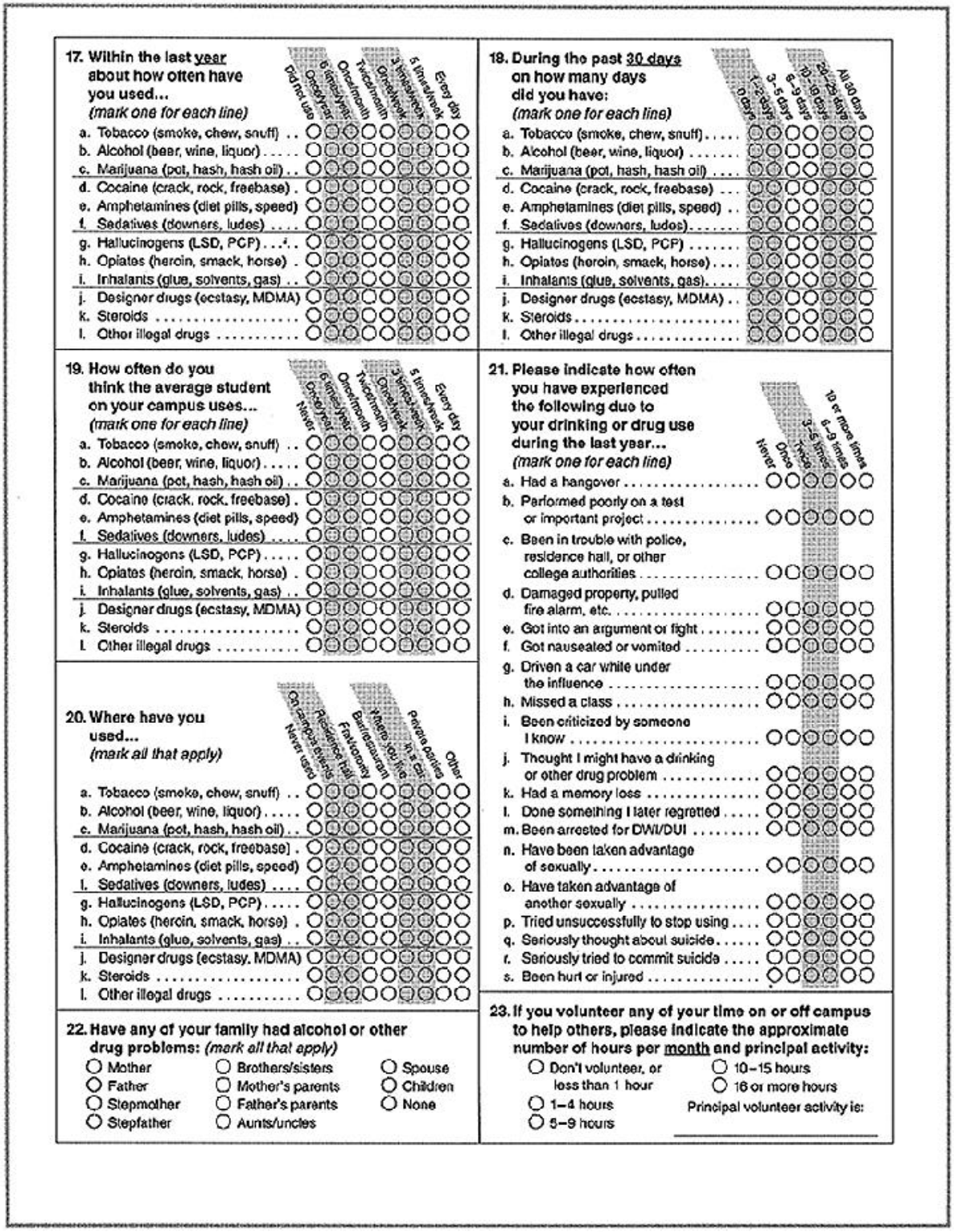
15. Average # of drinks* you consume a week:
(If less than 10, code answers as 00, 01, 02, etc.)

16. At what age did you first use... *(mark one for each line)*

	Did not use	Under 10	10–11	12–13	14–15	16–17	18–20	21–25	26+
a. Tobacco (smoke, chew, snuff)									
b. Alcohol (beer, wine, liquor)*									
c. Marijuana (pot, hash, hash oil)									
d. Cocaine (crack, rock, freebase)									
e. Amphetamines (diet pills, speed)									
f. Sedatives (downers, ludes)									
g. Hallucinogens (LSD, PCP)									
h. Opiates (heroin, smack, horse)									
i. Inhalants (glue, solvents, gas)									
j. Designer drugs (ecstasy, MDMA)									
k. Steroids									
l. Other illegal drugs									

*Other than a few sips

The CORE Alcohol and Drug Survey is a copyrighted document and has been included in this publication with the approval of the CORE Institute, Southern Illinois University.



17. Within the last year about how often have you used... *(mark one for each line)*

	Did not use	Once/year	6 times/year	Once/month	Two/month	Once/week	3 times/week	5 times/week	Every day
a. Tobacco (smoke, chew, snuff)	○	○	○	○	○	○	○	○	○
b. Alcohol (beer, wine, liquor)	○	○	○	○	○	○	○	○	○
c. Marijuana (pot, hash, hash oil)	○	○	○	○	○	○	○	○	○
d. Cocaine (crack, rock, freebase)	○	○	○	○	○	○	○	○	○
e. Amphetamines (diet pills, speed)	○	○	○	○	○	○	○	○	○
f. Sedatives (downers, ludes)	○	○	○	○	○	○	○	○	○
g. Hallucinogens (LSD, PCP)	○	○	○	○	○	○	○	○	○
h. Opiates (heroin, smack, horse)	○	○	○	○	○	○	○	○	○
i. Inhalants (glue, solvents, gas)	○	○	○	○	○	○	○	○	○
j. Designer drugs (ecstasy, MDMA)	○	○	○	○	○	○	○	○	○
k. Steroids	○	○	○	○	○	○	○	○	○
l. Other illegal drugs	○	○	○	○	○	○	○	○	○

18. During the past 30 days on how many days did you have: *(mark one for each line)*

	0 days	1–2 days	3–5 days	6–9 days	10–19 days	20–29 days	All 30 days
a. Tobacco (smoke, chew, snuff)	○	○	○	○	○	○	○
b. Alcohol (beer, wine, liquor)	○	○	○	○	○	○	○
c. Marijuana (pot, hash, hash oil)	○	○	○	○	○	○	○
d. Cocaine (crack, rock, freebase)	○	○	○	○	○	○	○
e. Amphetamines (diet pills, speed)	○	○	○	○	○	○	○
f. Sedatives (downers, ludes)	○	○	○	○	○	○	○
g. Hallucinogens (LSD, PCP)	○	○	○	○	○	○	○
h. Opiates (heroin, smack, horse)	○	○	○	○	○	○	○
i. Inhalants (glue, solvents, gas)	○	○	○	○	○	○	○
j. Designer drugs (ecstasy, MDMA)	○	○	○	○	○	○	○
k. Steroids	○	○	○	○	○	○	○
l. Other illegal drugs	○	○	○	○	○	○	○

19. How often do you think the average student on your campus uses... *(mark one for each line)*

	Never	Once/year	6 times/year	Once/month	Two/month	Once/week	3 times/week	5 times/week	Every day
a. Tobacco (smoke, chew, snuff)	○	○	○	○	○	○	○	○	○
b. Alcohol (beer, wine, liquor)	○	○	○	○	○	○	○	○	○
c. Marijuana (pot, hash, hash oil)	○	○	○	○	○	○	○	○	○
d. Cocaine (crack, rock, freebase)	○	○	○	○	○	○	○	○	○
e. Amphetamines (diet pills, speed)	○	○	○	○	○	○	○	○	○
f. Sedatives (downers, ludes)	○	○	○	○	○	○	○	○	○
g. Hallucinogens (LSD, PCP)	○	○	○	○	○	○	○	○	○
h. Opiates (heroin, smack, horse)	○	○	○	○	○	○	○	○	○
i. Inhalants (glue, solvents, gas)	○	○	○	○	○	○	○	○	○
j. Designer drugs (ecstasy, MDMA)	○	○	○	○	○	○	○	○	○
k. Steroids	○	○	○	○	○	○	○	○	○
l. Other illegal drugs	○	○	○	○	○	○	○	○	○

20. Where have you used... *(mark all that apply)*

	Never used	On campus events	Residence hall	Fraternity/sorority	Barrio/quarter	Where you live	In a car	Private setting	Other
a. Tobacco (smoke, chew, snuff)	○	○	○	○	○	○	○	○	○
b. Alcohol (beer, wine, liquor)	○	○	○	○	○	○	○	○	○
c. Marijuana (pot, hash, hash oil)	○	○	○	○	○	○	○	○	○
d. Cocaine (crack, rock, freebase)	○	○	○	○	○	○	○	○	○
e. Amphetamines (diet pills, speed)	○	○	○	○	○	○	○	○	○
f. Sedatives (downers, ludes)	○	○	○	○	○	○	○	○	○
g. Hallucinogens (LSD, PCP)	○	○	○	○	○	○	○	○	○
h. Opiates (heroin, smack, horse)	○	○	○	○	○	○	○	○	○
i. Inhalants (glue, solvents, gas)	○	○	○	○	○	○	○	○	○
j. Designer drugs (ecstasy, MDMA)	○	○	○	○	○	○	○	○	○
k. Steroids	○	○	○	○	○	○	○	○	○
l. Other illegal drugs	○	○	○	○	○	○	○	○	○

21. Please indicate how often you have experienced the following due to your drinking or drug use during the last year... *(mark one for each line)*

	Never	Once	Twice	3–5 times	6–9 times	10 or more times
a. Had a hangover	○	○	○	○	○	○
b. Performed poorly on a test or important project	○	○	○	○	○	○
c. Been in trouble with police, residence hall, or other college authorities	○	○	○	○	○	○
d. Damaged property, pulled fire alarm, etc.	○	○	○	○	○	○
e. Got into an argument or fight	○	○	○	○	○	○
f. Got nauseated or vomited	○	○	○	○	○	○
g. Driven a car while under the influence	○	○	○	○	○	○
h. Missed a class	○	○	○	○	○	○
i. Been criticized by someone I know	○	○	○	○	○	○
j. Thought I might have a drinking or other drug problem	○	○	○	○	○	○
k. Had a memory loss	○	○	○	○	○	○
l. Done something I later regretted	○	○	○	○	○	○
m. Been arrested for DWI/DUI	○	○	○	○	○	○
n. Have been taken advantage of sexually	○	○	○	○	○	○
o. Have taken advantage of another sexually	○	○	○	○	○	○
p. Tried unsuccessfully to stop using	○	○	○	○	○	○
q. Seriously thought about suicide	○	○	○	○	○	○
r. Seriously tried to commit suicide	○	○	○	○	○	○
s. Been hurt or injured	○	○	○	○	○	○

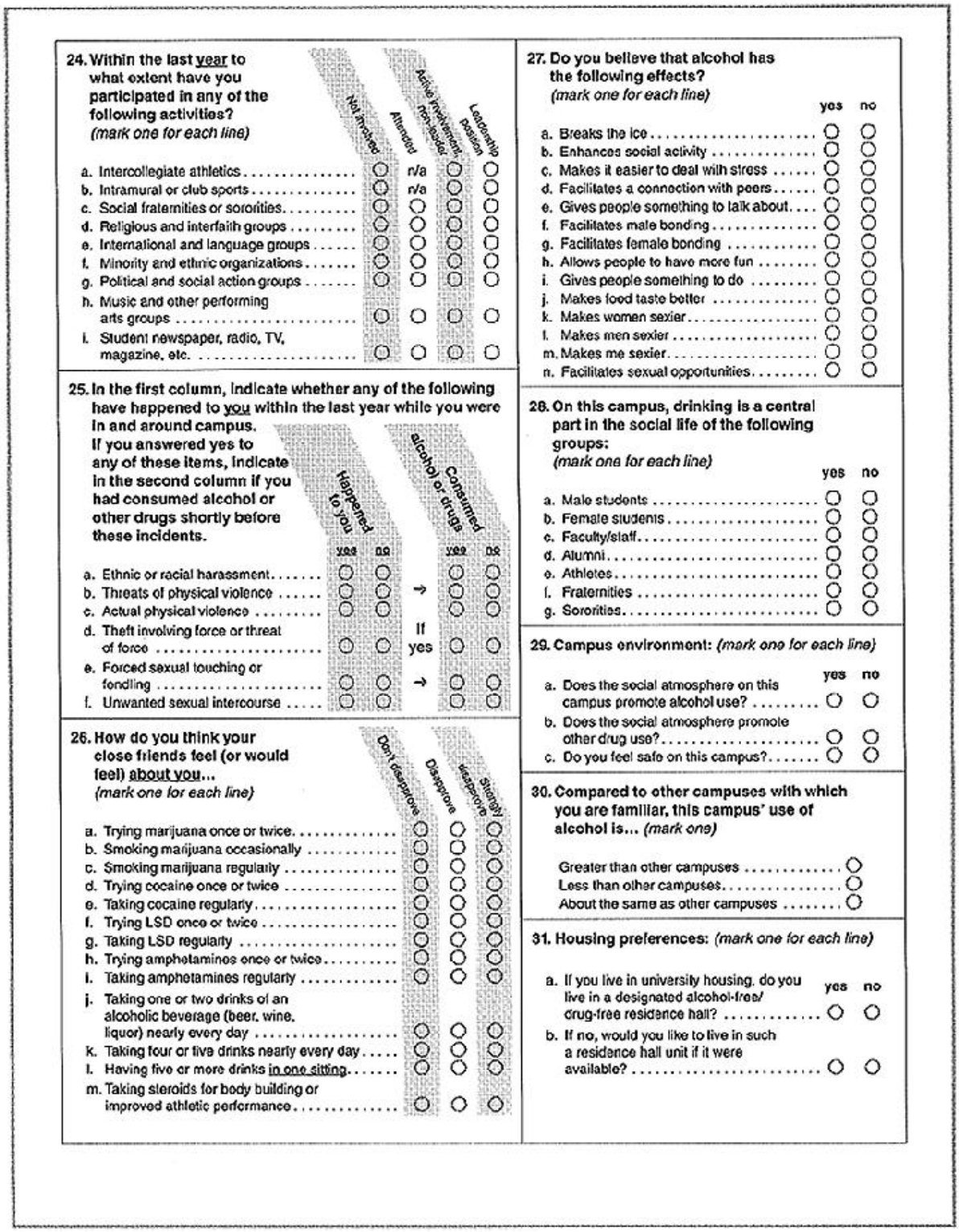
22. Have any of your family had alcohol or other drug problems: *(mark all that apply)*

- ○ Mother
- ○ Father
- ○ Stepmother
- ○ Stepfather
- ○ Brothers/sisters
- ○ Mother's parents
- ○ Father's parents
- ○ Aunts/uncles
- ○ Spouse
- ○ Children
- ○ None

23. If you volunteer any of your time on or off campus to help others, please indicate the approximate number of hours per month and principal activity:

- ○ Don't volunteer, or less than 1 hour
- ○ 1–4 hours
- ○ 5–9 hours
- ○ 10–15 hours
- ○ 16 or more hours

Principal volunteer activity is: _____



24. Within the last year to what extent have you participated in any of the following activities? *(mark one for each line)*

	Not involved	Attended	Active involvement, non-leader	Leadership position
a. Intercollegiate athletics	○	n/a	○	○
b. Intramural or club sports	○	n/a	○	○
c. Social fraternities or sororities	○	○	○	○
d. Religious and interfaith groups	○	○	○	○
e. International and language groups	○	○	○	○
f. Minority and ethnic organizations	○	○	○	○
g. Political and social action groups	○	○	○	○
h. Music and other performing arts groups	○	○	○	○
i. Student newspaper, radio, TV, magazine, etc.	○	○	○	○

25. In the first column, indicate whether any of the following have happened to you within the last year while you were in and around campus. If you answered yes to any of these items, indicate in the second column if you had consumed alcohol or other drugs shortly before these incidents.

	Happened to you: yes	Happened to you: no	If yes, consumed alcohol or drugs: yes	If yes, consumed alcohol or drugs: no
a. Ethnic or racial harassment	○	○	○	○
b. Threats of physical violence	○	○	○	○
c. Actual physical violence	○	○	○	○
d. Theft involving force or threat of force	○	○	○	○
e. Forced sexual touching or fondling	○	○	○	○
f. Unwanted sexual intercourse	○	○	○	○

26. How do you think your close friends feel (or would feel) about you... *(mark one for each line)*

	Don't disapprove	Disapprove	Strongly disapprove
a. Trying marijuana once or twice	○	○	○
b. Smoking marijuana occasionally	○	○	○
c. Smoking marijuana regularly	○	○	○
d. Trying cocaine once or twice	○	○	○
e. Taking cocaine regularly	○	○	○
f. Trying LSD once or twice	○	○	○
g. Taking LSD regularly	○	○	○
h. Trying amphetamines once or twice	○	○	○
i. Taking amphetamines regularly	○	○	○
j. Taking one or two drinks of an alcoholic beverage (beer, wine, liquor) nearly every day	○	○	○
k. Taking four or five drinks nearly every day	○	○	○
l. Having five or more drinks in one sitting	○	○	○
m. Taking steroids for body building or improved athletic performance	○	○	○

27. Do you believe that alcohol has the following effects? *(mark one for each line)*

	yes	no
a. Breaks the ice	○	○
b. Enhances social activity	○	○
c. Makes it easier to deal with stress	○	○
d. Facilitates a connection with peers	○	○
e. Gives people something to talk about	○	○
f. Facilitates male bonding	○	○
g. Facilitates female bonding	○	○
h. Allows people to have more fun	○	○
i. Gives people something to do	○	○
j. Makes food taste better	○	○
k. Makes women sexier	○	○
l. Makes men sexier	○	○
m. Makes me sexier	○	○
n. Facilitates sexual opportunities	○	○

28. On this campus, drinking is a central part in the social life of the following groups: *(mark one for each line)*

	yes	no
a. Male students	○	○
b. Female students	○	○
c. Faculty/staff	○	○
d. Alumni	○	○
e. Athletes	○	○
f. Fraternities	○	○
g. Sororities	○	○

29. Campus environment: *(mark one for each line)*

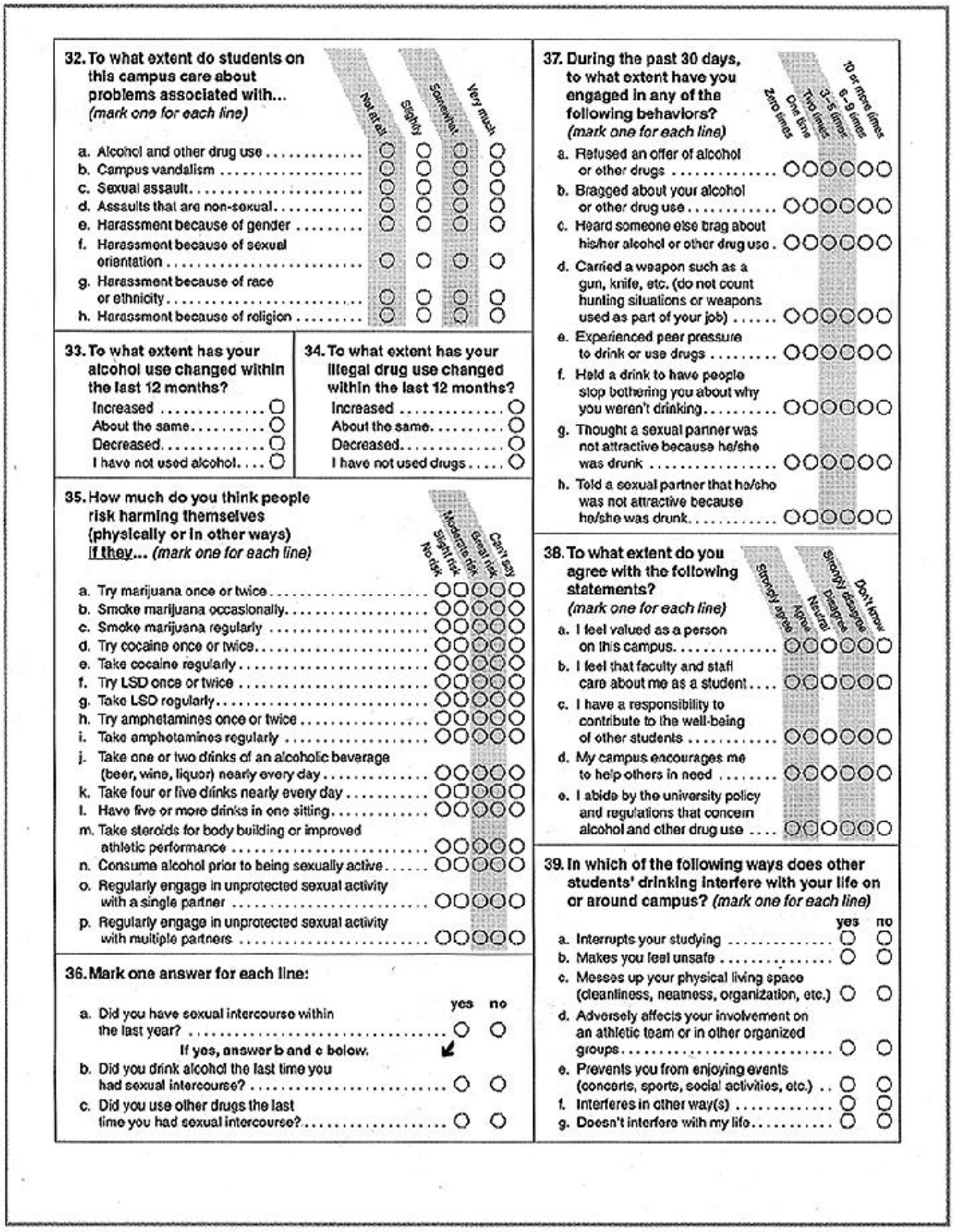
	yes	no
a. Does the social atmosphere on this campus promote alcohol use?	○	○
b. Does the social atmosphere promote other drug use?	○	○
c. Do you feel safe on this campus?	○	○

30. Compared to other campuses with which you are familiar, this campus' use of alcohol is... *(mark one)*

- Greater than other campuses ○
- Less than other campuses ○
- About the same as other campuses ○

31. Housing preferences: *(mark one for each line)*

	yes	no
a. If you live in university housing, do you live in a designated alcohol-free/ drug-free residence hall?	○	○
b. If no, would you like to live in such a residence hall unit if it were available?	○	○



32. To what extent do students on this campus care about problems associated with... *(mark one for each line)*

	Not at all	Slightly	Somewhat	Very much
a. Alcohol and other drug use	○	○	○	○
b. Campus vandalism	○	○	○	○
c. Sexual assault	○	○	○	○
d. Assaults that are non-sexual	○	○	○	○
e. Harassment because of gender	○	○	○	○
f. Harassment because of sexual orientation	○	○	○	○
g. Harassment because of race or ethnicity	○	○	○	○
h. Harassment because of religion	○	○	○	○

33. To what extent has your alcohol use changed within the last 12 months?

- Increased ○
- About the same ○
- Decreased ○
- I have not used alcohol ○

34. To what extent has your illegal drug use changed within the last 12 months?

- Increased ○
- About the same ○
- Decreased ○
- I have not used drugs ○

35. How much do you think people risk harming themselves (physically or in other ways) If they... *(mark one for each line)*

	No risk	Slight risk	Moderate risk	Great risk	Can't say
a. Try marijuana once or twice	○	○	○	○	○
b. Smoke marijuana occasionally	○	○	○	○	○
c. Smoke marijuana regularly	○	○	○	○	○
d. Try cocaine once or twice	○	○	○	○	○
e. Take cocaine regularly	○	○	○	○	○
f. Try LSD once or twice	○	○	○	○	○
g. Take LSD regularly	○	○	○	○	○
h. Try amphetamines once or twice	○	○	○	○	○
i. Take amphetamines regularly	○	○	○	○	○
j. Take one or two drinks of an alcoholic beverage (beer, wine, liquor) nearly every day	○	○	○	○	○
k. Take four or five drinks nearly every day	○	○	○	○	○
l. Have five or more drinks in one sitting	○	○	○	○	○
m. Take steroids for body building or improved athletic performance	○	○	○	○	○
n. Consume alcohol prior to being sexually active	○	○	○	○	○
o. Regularly engage in unprotected sexual activity with a single partner	○	○	○	○	○
p. Regularly engage in unprotected sexual activity with multiple partners	○	○	○	○	○

36. Mark one answer for each line:

	yes	no
a. Did you have sexual intercourse within the last year?	○	○
If yes, answer b and c below.		
b. Did you drink alcohol the last time you had sexual intercourse?	○	○
c. Did you use other drugs the last time you had sexual intercourse?	○	○

37. During the past 30 days, to what extent have you engaged in any of the following behaviors? *(mark one for each line)*

	Zero times	One time	Two times	3–5 times	6–9 times	10 or more times
a. Refused an offer of alcohol or other drugs	○	○	○	○	○	○
b. Bragged about your alcohol or other drug use	○	○	○	○	○	○
c. Heard someone else brag about his/her alcohol or other drug use	○	○	○	○	○	○
d. Carried a weapon such as a gun, knife, etc. (do not count hunting situations or weapons used as part of your job)	○	○	○	○	○	○
e. Experienced peer pressure to drink or use drugs	○	○	○	○	○	○
f. Held a drink to have people stop bothering you about why you weren't drinking	○	○	○	○	○	○
g. Thought a sexual partner was not attractive because he/she was drunk	○	○	○	○	○	○
h. Told a sexual partner that he/she was not attractive because he/she was drunk	○	○	○	○	○	○

38. To what extent do you agree with the following statements? *(mark one for each line)*

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Don't know
a. I feel valued as a person on this campus	○	○	○	○	○	○
b. I feel that faculty and staff care about me as a student	○	○	○	○	○	○
c. I have a responsibility to contribute to the well-being of other students	○	○	○	○	○	○
d. My campus encourages me to help others in need	○	○	○	○	○	○
e. I abide by the university policy and regulations that concern alcohol and other drug use	○	○	○	○	○	○

39. In which of the following ways does other students' drinking interfere with your life on or around campus? *(mark one for each line)*

	yes	no
a. Interrupts your studying	○	○
b. Makes you feel unsafe	○	○
c. Messes up your physical living space (cleanliness, neatness, organization, etc.)	○	○
d. Adversely affects your involvement on an athletic team or in other organized groups	○	○
e. Prevents you from enjoying events (concerts, sports, social activities, etc.)	○	○
f. Interferes in other way(s)	○	○
g. Doesn't interfere with my life	○	○

APPENDIX – B

Request for Approval of Study at the Health Science Center

Thomas Moorman
3801 Tulsa Way
Fort Worth, TX 76107

June 1, 2001

Dr. Benjamin Cohen
Provost, UNT Health Science Center
3500 Camp Bowie Blvd.
Fort Worth, TX 76107

Dear Dr. Cohen,

I have completed my dissertation proposal and will be defending it to my committee on June 21. I would like to request your permission to administer the CORE Alcohol and Drug Survey to all students enrolled in didactic coursework during the Fall 2001 semester. The title of my research project is: ALCOHOL AND OTHER DRUGS: ATTITUDES AND USE AMONG GRADUATE/PROFESSIONAL STUDENTS AT A HEALTH SCIENCE CENTER Attached, you will find a full text copy of the proposal which includes a copy of the survey instrument.

Timeline:

June 2001	Draft of Proposal to Committee
June 2001	Defend Proposal
September 2001	Administer Survey Instrument
November 2001	Tabulate Data and Begin writing final version of dissertation
February 2002	Draft of Dissertation to Committee
March 2002	Final Draft of Dissertation Complete
April 2002	Defend Dissertation
August 2002	Graduate

Please feel free to contact me with any questions or concerns.

Thank you for your consideration!

Thomas Moorman
Doctoral Candidate
Program in Higher Education
UNT-Denton
(817) 735-0302 Office
(817) 737-7999 Home

APPENDIX - C

Approval of Study at the Health Science Center

UNIVERSITY of NORTH TEXAS
HEALTH SCIENCE CENTER at Fort Worth
★
Education, Research,
Patient Care and Service

Office of the Provost
3500 Camp Bowie Boulevard
Fort Worth, Texas 76107-2699

June 15, 2001

Thomas Moorman
3801 Tulsa Way
Fort Worth, TX 76107

Dear Mr. Moorman

I have received your request to conduct a research project relative to attitudes and use of alcohol and other drugs among students at the University of North Texas Health Science Center. I understand that the results of your study will be published as a dissertation for the purpose of completing your doctoral degree requirements.

I am pleased to inform you that permission has been granted for you to conduct this valuable study on our campus. However, the approval of this study is contingent upon review by the University of North Texas Health Science Center Institutional Review Board. The IRB must approve your study for the appropriate handling of human subjects.

I wish you the best of luck with your research and the completion of your degree.

Sincerely,

Benjamin L. Cohen D.O.

Benjamin Cohen, D.O.
Provost, UNT Health Science Center

BLC/mls
04/01

APPENDIX – D

Pre-Survey Letter

Thomas Moorman
3801 Tulsa Way
Fort Worth, TX 76107

September 1, 2001

Dear UNT Health Science Center Student:

The use of alcohol and other drugs by graduate and professional students has received little attention from higher education researchers. During my time at the University of North Texas Health Science Center, I have developed an interest in the attitudes toward and incidents of alcohol and other drug use and its effects on our campus community. Therefore, I have chosen to focus my dissertation research on identifying our campus culture as it relates to alcohol and other drug use. This research will be conducted for the fulfillment of a Doctorate in Higher Education Administration at the University of North Texas in Denton.

You are invited to volunteer in this study. A survey packet will be mailed to your home address in the next week.

This survey is being sent to all students enrolled in coursework taking place on the Health Science Center's Fort Worth campus during the Fall 2001 semester. As an enrolled student, your participation is requested on a voluntary basis and will not affect your academic status at the Health Science Center. The research procedures have been reviewed and approved by the Institutional Research Board to insure your complete anonymity. The final report will contain summary data only and no individual responses will be identified.

Enclosed in this packet is a Study/Participant Information Sheet which describes the purpose of this study and your role in its successful completion.

If you have any questions or concerns regarding this study, feel free to call me at (817) 735-0302 (daytime) or (817) 737-7999 (evenings), Claudia Coggin, the UNT Health Science Center Primary Investigator at (817) 735-2252, or Jack Baier, the UNT Faculty Sponsor at (940) 565-3238.

This research study has been reviewed and approved by the UNT Committee for the Protection of Human Subjects (940) 565-3940 and the UNT Health Science Center Committee for the Protection of Human Subjects (817) 735-5483.

Thanks for helping me complete my doctoral dissertation research.

Sincerely,

T. Moorma

Thomas Moorman
Doctoral Candidate
Program in Higher Education
University of North Texas

APPENDIX E

Research Study/Participant Information Sheet

Research Study/Participant Information Sheet

Title of Study:

Alcohol and Other Drugs: Attitudes and Use Among Graduate/Professional Students at a Health Science Center

Research Project Contacts:

Thomas Moorman, M.S.
Primary Investigator, UNT
Doctoral Student, Program in Higher Education
University of North Texas
Director, Student Affairs
UNT Health Science Center
School of Public Health
Day: (817) 735-0302
Evenings: (817) 737-7999

Claudia Coggin, M.S.
Primary Investigator, UNTHSC
Instructor
Department of Social & Behavioral Sciences
UNT Health Science Center
School of Public Health
Office: (817) 735-2252

Jack Baier, Ph.D.
Faculty Sponsor, UNT
Professor
Program in Higher Education
University of North Texas
Office: (940) 565-3238

I. Purpose

The purpose of this study is to utilize this instrument to gain an understanding relative to the current level of alcohol and drug use and attitudes toward this use among students enrolled in didactic course work at the University of North Texas Health Science Center. The findings of this study can then be utilized in the development of an appropriate prevention program for the students of the University of North Texas Health Science Center.

II. Background

Alcohol and other drug use continue to be a major issue on college and university campuses. While there have been numerous studies reviewing alcohol and other drug use among the undergraduate population in the United States, few have examined these issues relative to graduate and professional student populations. Those that have focused on alcohol and other drug related behaviors, not the attitudes and perceptions of these behaviors on campus. This is especially true for students studying for a profession in the health science related fields. Furthermore, a comparison of relationships between the current alcohol and other drug use and attitudes toward this use among the various health science student populations has not been conducted. Therefore, this study will examine attitudes, incidents, and consequences of alcohol and other drug use among students enrolled in a variety of academic disciplines at the heath science center.

Criteria for Inclusion/Exclusion of Subjects

A. Characteristics for Subject Inclusion:

The study will be conducted at the University of North Texas Health Science Center at Fort Worth. All students enrolled in didactic course-work throughout the Fall 2001 semester will be invited to volunteer for the study. This will include all master's students in the physician assistant studies program, all master's and doctoral students in the Graduate School of Biomedical Sciences, all master's and doctoral students in the School of Public Health, and all medical students in their first or second year of medical school.

B. Characteristics for Subject Exclusion:

Students not enrolled for didactic courses will be eliminated from the population for the purpose of this study. The students eliminated will consist of all medical and physician assistant students engaged in clinical clerkships during the Fall 2001 semester.

III. Recruitment of Subjects

All subjects will be recruited from the students enrolled in didactic course-work throughout the Fall 2001 semester at the University of North Texas Health Science Center.

IV. Procedures

The survey will be administered in the Fall of 2001 and completed prior to the Thanksgiving/Fall Break. The first distribution of the survey will be during the second week of September 2001. The individual surveys will be coded to indicate the academic program to which the respondent belongs. A separate code will be used for each of the following four academic programs: medical students, physician assistant students, graduate students in the biomedical sciences, and graduate students in public health. One week prior to the distribution of the survey, a letter will be sent to each selected participant. The letter serves three purposes: an invitation to participate, an explanation of the purpose, and an assurance of anonymity. The following week, the survey packet will be sent through the U.S. Postal Service to each selected student's local address. The survey packet contains a cover letter, copy of the CORE Alcohol and Drug Survey long form, a self-addressed and postage paid return envelope for the survey, and the Research Study/Participant Information Sheet. One week after the initial distribution of the survey, a reminder postcard will be sent. The following week, a second survey packet will be sent. Additionally, the cover letter for the second mailing will include instructions to destroy the survey if the subject has

already completed and returned a prior copy of the instrument. These steps will be taken to eliminate the potential of one subject completing multiple surveys. All completed surveys will be retained for a minimum of five years after completion of the study.

V. Potential Risks

This is a non-invasive study with no foreseeable risks to the study participants. The survey instrument is completely voluntary and anonymous, which eliminates any risk of subject identification or duress.

VI. Special Precautions

All measures will be taken to protect the confidentiality of subjects. No subject identifiers (e.g. name, social security number, etc.) will appear on the survey instrument or the return envelope. The investigator will collect all completed surveys from the designated mailbox at the end of each day. All reports and potential publications will report aggregated information only - subjects will never be identified. Due to the procedures implemented by the investigators, there should be no risk of harm to subjects.

VII. Potential Benefits

There are no direct benefits anticipated for study subjects. The benefits of this study derive principally from the importance of the knowledge expected to result from it.

VIII. Risk/Benefit Assessment

The special precautions taken to protect subject confidentiality (noted above) suggest that the potential benefits of knowledge expected to be gained from the study far outweigh any potential risks.

This research study has been reviewed and approved by the UNT Committee for the Protection of Human Subjects (940) 565-3940 and the UNT Health Science Center Committee for the Protection of Human Subjects (817) 735-5483.

APPENDIX F

Cover Letter for the First Mailing of the Survey

Thomas Moorman
3801 Tulsa Way
Fort Worth, TX 76107

September 8, 2001

Dear UNT Health Science Center Student:

Please take a few minutes to complete and return the attached survey. It should only take about 10 minutes to complete.

This study is being conducted in collaboration with the University of North Texas Health Science Center and the Program in Higher Education at the University of North Texas. The results will be used in the development of a doctoral student dissertation on attitudes and incidents of alcohol and other drug use among students at the Health Science Center.

You are invited to volunteer for this study. In order to assure anonymity, this survey does not require any form of personal identification. However, the instrument is coded to reflect your academic program. All individual responses will remain confidential. Although you are encouraged to complete and return this survey, your participation is voluntary and will in no way affect your academic standing at the Health Science Center.

Your prompt and honest reply is appreciated. Please return the completed survey in the postage paid return envelope provided. Also, a copy of the results of this study will be mailed to you upon your request. You may request a copy of the results by contacting the researchers at the address above or the phone numbers below.

Enclosed in this packet is a Study/Participant Information Sheet which describes in more detail the purpose of this study and your role in its successful completion.

If you have any questions or concerns regarding this study, feel free to call me at (817) 735-0302 (daytime) or (817) 737-7999 (evenings), Claudia Coggin, the UNT Health Science Center Primary Investigator at (817) 735-2252, or Jack Baier, the UNT Faculty Sponsor at (940) 565-3238.

This research study has been reviewed and approved by the UNT Committee for the Protection of Human Subjects (940) 565-3940 and the UNT Health Science Center Committee for the Protection of Human Subjects (817) 735-5483.

Thanks for helping me complete my doctoral dissertation research.

Sincerely,

T. Moorman

Thomas Moorman
Doctoral Candidate
Program in Higher Education
University of North Texas

APPENDIX G

Cover Letter for the Second Mailing of the Survey

Thomas Moorman
3801 Tulsa Way
Fort Worth, TX 76107

September 22, 2001

Dear UNT Health Science Center Student:

Please take a few minutes to complete and return the attached survey. It should only take about 10 minutes to complete. If you have previously completed this survey, please destroy this copy. Do not complete and return multiple copies of the survey. Thank you!

This study is being conducted in collaboration with the University of North Texas Health Science Center and the Program in Higher Education at the University of North Texas. The results will be used in the development of a doctoral student dissertation on attitudes and incidents of alcohol and other drug use among students at the Health Science Center.

You invited to participate in this study. In order to assure anonymity, this survey does not require any form of personal identification. However, the instrument is coded to reflect your academic program. All individual responses will remain confidential. Although you are encouraged to complete and return this survey, your participation is voluntary and will in no way affect your academic standing at the Health Science Center.

Your prompt and honest reply is appreciated. Please return the completed survey in the postage paid return envelope provided. Also, a copy of the results of this study will be mailed to you upon your request. You may request a copy of the results by contacting the researcher at the address above or the phone numbers below.

Enclosed in this packet is a Study/Participant Information Sheet which describes in more detail the purpose of this study and your role in its successful completion.

If you have any questions or concerns regarding this study, feel free to call me at (817) 735-0302 (daytime) or (817) 737-7999 (evenings), Claudia Coggin, the UNT Health Science Center Primary Investigator at (817) 735-2252, or Jack Baier, the UNT Faculty Sponsor at (940) 565-3238.

This research study has been reviewed and approved by the UNT Committee for the Protection of Human Subjects (940) 565-3940 and the UNT Health Science Center Committee for the Protection of Human Subjects (817) 735-5483.

Thanks for helping me complete my doctoral dissertation research.
Sincerely,

T. Moorman

Thomas Moorman
Doctoral Candidate
Program in Higher Education
University of North Texas

APPENDIX H

Cover Letter for the Third Mailing of the Survey

Thomas Moorman
3801 Tulsa Way
Fort Worth, TX 76107

October 6, 2001

Dear UNT Health Science Center Student:

Please take a few minutes to complete and return the attached survey. It should only take about 10 minutes to complete. If you have previously completed this survey, please destroy this copy. Do not complete and return multiple copies of the survey. Thank you!

This study is being conducted in collaboration with the University of North Texas Health Science Center and the Program in Higher Education at the University of North Texas. The results will be used in the development of a doctoral student dissertation on attitudes and incidents of alcohol and other drug use among students at the Health Science Center.

You invited to participate in this study. In order to assure anonymity, this survey does not require any form of personal identification. However, the instrument is coded to reflect your academic program. All individual responses will remain confidential. Although you are encouraged to complete and return this survey, your participation is voluntary and will in no way affect your academic standing at the Health Science Center.

Your prompt and honest reply is appreciated. Please return the completed survey in the postage paid return envelope provided. Also, a copy of the results of this study will be mailed to you upon your request. You may request a copy of the results by contacting the researcher at the address above or the phone numbers below.

Enclosed in this packet is a Study/Participant Information Sheet which describes in more detail the purpose of this study and your role in its successful completion.

If you have any questions or concerns regarding this study, feel free to call me at (817) 735-0302 (daytime) or (817) 737-7999 (evenings), Claudia Coggin, the UNT Health Science Center Primary Investigator at (817) 735-2252, or Jack Baier, the UNT Faculty Sponsor at (940) 565-3238.

This research study has been reviewed and approved by the UNT Committee for the Protection of Human Subjects (940) 565-3940 and the UNT Health Science Center Committee for the Protection of Human Subjects (817) 735-5483.

Thanks for helping me complete my doctoral dissertation research.
Sincerely,

T. Moorman

Thomas Moorman
Doctoral Candidate
Program in Higher Education
University of North Texas

APPENDIX I

Reminder Postcards Sent Between Survey Mailings

Attention UNT Health Science Center Student,

The use of alcohol and other drugs by graduate and professional students has received little attention from higher education researchers. During my time at the University of North Texas Health Science Center, I have developed an interest in the attitudes toward and incidents of alcohol and other drug use and its effects on our campus community. Therefore, I have chosen to focus my dissertation research on identifying our campus culture as it relates to alcohol and other drug use. This research will be conducted for the fulfillment of a Doctorate in Higher Education Administration at the University of North Texas in Denton.

You are invited to volunteer for this study. A survey packet was mailed to your house last week. If you are still in possession of it you may return it in the postage paid envelope provided. Additionally, if you have not received it or if it has been misplaced, a second survey and postage paid return envelope will be mailed to your home address in the next week. Please do not complete and return multiple surveys.

If you have any questions or concerns regarding this study, feel free to call me at (817) 735-0302 (daytime) or (817) 737-7999 (evenings), Claudia Coggin, the UNT Health Science Center Primary Investigator at (817) 735-2252, or Jack Baier, the UNT Faculty Sponsor at (940) 565-3238.

Thanks for helping me complete my doctoral dissertation research. This research study has been reviewed and approved by the UNT Committee for the Protection of Human Subjects (940) 565-3940 and the UNT Health Science Center Committee for the Protection of Human Subjects (817) 735-5483.

Sincerely,
Thomas Moorman, Doctoral Candidate
Program in Higher Education, University of North Texas
Director, Student Affairs, UNT Health Science Center

APPENDIX J

University of North Texas Health Science Center at Fort Worth IRB Approval

UNIVERSITY of NORTH TEXAS HEALTH SCIENCE CENTER at Fort Worth
TEXAS COLLEGE OF OSTEOPATHIC MEDICINE
INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF HUMAN SUBJECTS

BOARD ACTION

IRB PROJECT #: 20-108 DATE SUBMITTED: August, 2001

PRINCIPAL INVESTIGATOR: Claudia Coggin, M.S. (with DrPH Student Thomas Moorman)

PROJECT TITLE: Alcohol and Other Drugs: Attitudes and Use Among Graduate/Professional Students at a Health Science Center

PROTOCOL #: N/A

DEPARTMENT: School of Public Health TELEPHONE EXTENSION: _____

In accordance with UNT Health Science Center policy on the protection of human subjects, the following action has been taken on the above referenced project:

Approval, when given, is **only** for the project as submitted. **No changes** may be implemented without first receiving IRB review and approval.

_____ Project has received approval through _____.

_____ Informed Consent approved as submitted on _____.
Only consent documents which bear the official UNTHSC IRB approval stamp can be used with subjects.

_____ Study Protocol dated _____ approved as submitted.

_____ Protocol Synopsis approved as submitted on _____.

_____ Amendment _____ to the protocol approved as submitted.

_____ Based on the recently completed Periodic Project Review (IRB Form 4), project has received continued approval through _____.

_____ Project has been approved, contingent upon the modifications outlined below being incorporated. In order to receive final approval, you must submit one "highlighted" copy and one "clean" copy of the revised protocol synopsis, informed consent and advertisement to the IRB for review.

_____ Consideration of the project has been tabled pending resolution of the issue(s) outlined below.

_____ Project is disapproved for the reason(s) outlined below.

Project is exempt from IRB review under the provisions of 45 CFR 46.101 (b), #2.
In addition, the study meets all four of the applicable conditions mandated by
45 CFR 46.116 (d) and a waiver from the requirement to obtain informed consent is granted.

Chairman, Institutional Review Board

August 3, 2001
Date

White Copy - P.I. Yellow Copy - IRB Office Pink Copy - Department File

APPENDIX K

University of North Texas at Denton IRB Approval

UNIVERSITY of NORTH TEXAS

Office of Research Services

August 8, 2001

Thomas Moorman
3801 Tulsa Way
Fort Worth, TX 76107

RE: Human Subjects Application No. 01-162

Dear Mr. Moorman,

Your proposal titled "Alcohol and Other Drugs: Attitudes and Use Among Graduate/Professional Students at a Health Science Center" has been approved by the Institutional Review Board and is exempt from further review under 45 CFR 46.101.

The UNT IRB must review any modification you make in the approved project. **Federal policy 21 CFR 56.109(e) stipulates that IRB approval is for one year only.**

Please contact me if you wish to make changes or need additional information.

Sincerely,
Peter L. Shillingsburg

Peter L. Shillingsburg
Chair
Institutional Review Board

PS:sb

P.O. Box 305250 • Denton, Texas 76203-5250 • (940) 565-3940
Fax (940) 565-4277 • TTY (800) RELAY TX • www.unt.edu

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